MONTHLY INTERNATIONAL FEATURE ISSUE

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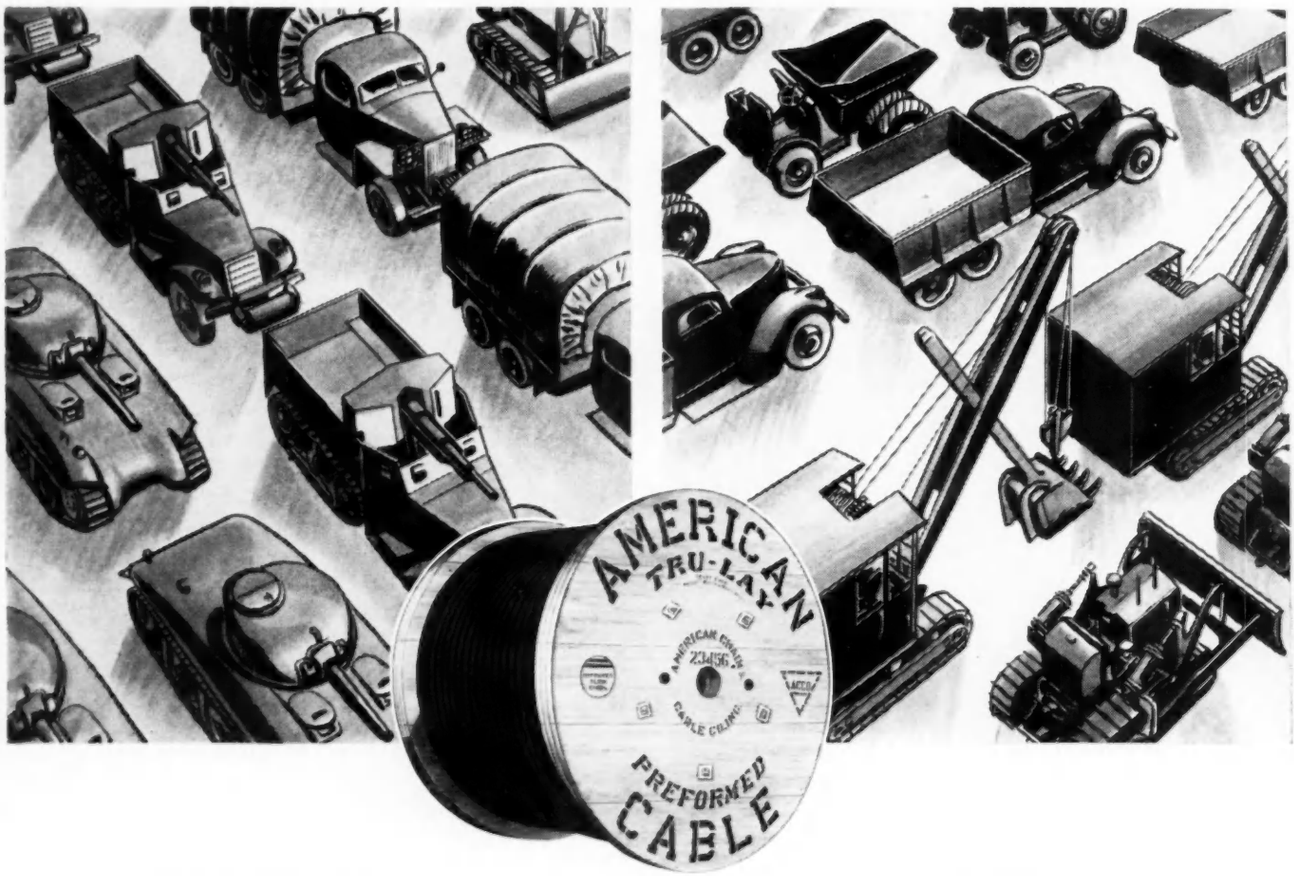

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The OIL WEEKLY

ENGINEERING • NEWS • STATISTICS

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LOOKING AHEAD
. . . with the Editor

ALMOST any question that might be asked about 1945 drilling, exploratory operations, production, consumption, pipe-line construction and other activities of the industry will be answered in THE OIL WEEKLY'S big Annual Yearbook-Forecast Number to appear next week.

In addition to this summary of the year past, the number will contain the annual forecast of trends and activities, a forecast which has been of tremendous help to oil companies and equipment manufacturers. The statistical section will abound with graphic charts, many of them in color, which will provide valuable data on scores of pertinent petroleum subjects.

The influences of a worldwide war have had their effect on the industry and the many changes which have resulted are faithfully recorded.

This special number is regarded by its editors as one of their most valuable contributions of the year.

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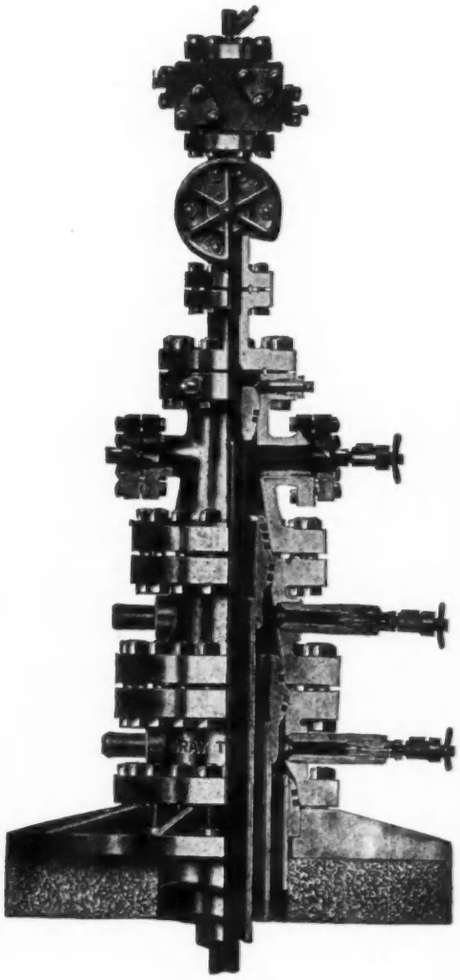

FIGURE 1A

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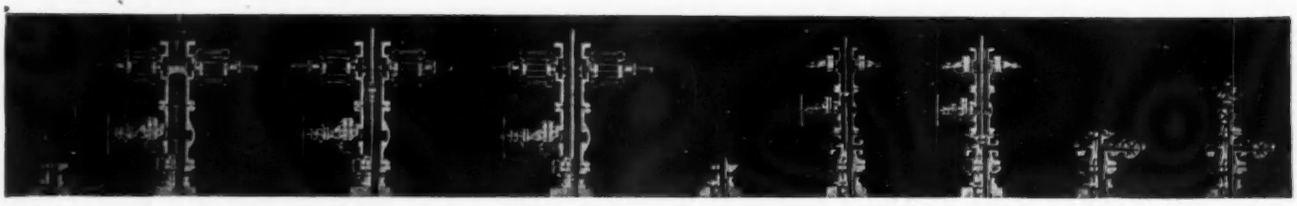

Casing Head Attached | Drilling | Running Casing | Casing Landed | Drilling Control Equipment Removed | Drilling-in and Running Tubing | Tubing Landed | Control Equipment Removed | Manifold Attached

The Outlook

With price control slated for extension for another year from next June 30, refiners are facing the probability that petroleum products are likely to be among the last commodities released from regulation. Another drive is expected to be made for a general price increase, based on the higher costs which will result from wage increases in the steel, electrical and other industries, which the industry will not be able to absorb because of the higher wages it itself is paying.

* * * *

Prospects for congressional approval of the $3.75 billion loan to England have improved as a result of a decision to have the agreement approved by both Houses instead of by the Senate only. This will mean it will get through on a simple majority in each House whereas, if offered to the Senate as a treaty, a two-thirds vote in that body would be required for ratification.

* * * *

Some export of oil to Germany and Japan is indicated by the program of the occupation authorities to revive certain industries in those countries, particularly those needed to manufacture products in world short supply to their populations and for shipment to other countries. The plan would take the two former enemy countries off of "relief" by putting them on a production basis, but only such quantities as are needed to supply minimum needs of the population would be left in the country, the remainder being exported to pay for the raw materials supplied.

* * * *

At least another year will be required to straighten out the population tangle occasioned by the great migration of labor and the call to military service during the war. As yet, there is no clear indication what proportion of workers who moved to defense areas during the war will return to their former homes, stay where they are or move on to other localities. Returning servicemen also are showing a tendency to settle down where jobs are available in the lines for which they were trained in the service or in which they desire to pursue.

* * * *

A definite theory as to Russia's oil policy is beginning to be worked out in Washington, where the impression prevails that the Soviet is discovering much more petroleum than will be required for an economy in which consumption for industry will be cared for but civilians will not be permitted the free wheeling we have in this country. There is a belief that Russia will hold her oil against that day in the future when supplies of other countries begin to fade, then use it politically to the advantage of communism by demanding concessions in return for exports.

* * * *

President Truman's recommendation for resumption of war-halted developmental work on our natural resources, with emphasis upon cheap water power, is viewed in many quarters as having its oil-conservation angle. Public utility interests are girding themselves for an expected fight against government competition, but the oil and coal industries also have an interest in the matter, since subsidized electric power will become a strong competitor wherever it is made available.

* * * *

Future drilling programs, especially in the huge Anadarko Basin of Western Oklahoma, will be strongly influenced by the outcome of the fight which has been waged before the Oklahoma Corporation Commission in the North Lindsay field well spacing hearing. Major oil companies want 80-acre spacing; independents, landowners and others want 10-acre spacing. Looks like a 40-acre spacing order will serve to compromise the issue with most of the contestants satisfied with the ruling.

* * * *

The most acceptable features of several labor bills pending before congressional committees are likely to be incorporated in labor legislation. Stricter regulation of unions is almost a certainty.

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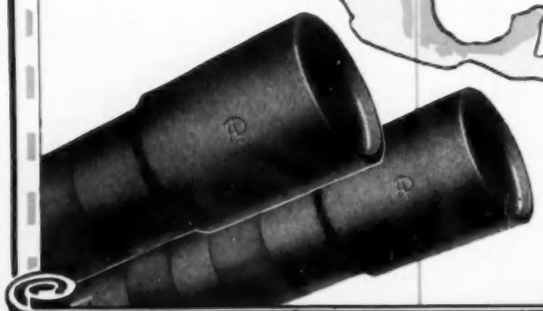

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The Changing Panorama

Price Increases Badly Needed by Refiners

THE recent upward revision of price ceilings for kerosine and distillate fuel oil means that refiners can now manufacture larger quantities of kerosine and distillate fuel oil and less gasoline without facing financial ruin. Consequently, it should result in major adjustments of refinery product yields, something badly needed if the industry avoids a flood of gasoline that would threaten its stability.

The nation's stocks of gasoline have been rising at an alarming rate during the past two months, and now total 100 million barrels. Indications were that they soon would reach an all-time peak, some predictions being 120 million barrels during March, or 10 million barrels above the record quantity in storage during 1942.

A combination of factors brought about the unhealthy gasoline situation. Consumption of gasoline fell sharply following close of the war, yet demand for kerosine, distillate fuel oil and residual fuel oil remained strong. To meet the requirements for kerosine, distillate fuel oil and residual fuel oil, refiners continued to run large volumes of crude oil to stills; and with price ceilings permitting profit only on gasoline, product yields were not adjusted to fit the situation. Much unneeded gasoline resulted.

The new kerosine and distillate fuel oil prices will cause an adjustment of refinery product yields. Price ceilings should have been revised sooner, as requested by the industry. However, it can still do some good, providing refiners are quick to make their adjustment.

Firms in Roumania Have Backs to Wall

SEIZURE by the Russian army of American oil properties at Lispe, Hungary, was the quick method of doing it, but apparently just as effective is the machine that is grinding in Roumania.

According to press dispatches, both American and British companies are required under a collective labor contract effective last December to pay salary increases in the form of allowance for food, clothing, rent, firewood and in bonuses for long service and regular attendance wage increase amounting to 105 percent. Price increases of 230 percent are being asked in order to offset these bursting expenditures, but the companies expect little if any relief.

In the meantime forced production and the sale of oil at a price far below production cost is the order of the Roumanian day. Companies figure that net costs for 1946 will be 2½ times their income at present price levels. This situation is aggravated further by loss in the seizure by the Russians of large amounts of irreplaceable equipment, this despite the fact that it was the property of Allied companies.

Already there is this bad effect on Russia (which gets the oil after the Roumanian government acquires it at a ceiling price which Roumania itself sets): Restoration of production naturally is being held back and doubtless the year's output will drop precipitately.

How Russia expects to come out ahead is a puzzle. Perhaps present tactics will finally develop into complete seizure of the properties whereupon talented Soviet engineers will take over and put into effect their improved petroleum recovery technique which, compared with American methods is like a 1946 drilling rig standing beside Colonel Drake's model.

At least that's what the Russians said at Lispe!

The basic answer to America's future oil needs lies in technology and free enterprise rather than the proved reserves in the ground.

—DR. ROBERT E. WILSON, Standard Oil Company (Indiana).

Palms to Us!

IN THE OIL WEEKLY office last week certain staff members were congratulating others on the 1945 drilling operations forecast made in January 1945 which was—no less—99.81 percent accurate. These forecasts have been regarded as "right on the nose" for some years, but this is the most accurate so far.

The same accuracy crew is at work on the 1946 forecast. They admit lots of luck a year ago, hope for the same breaks this year.

On footage to be drilled the forecasters came close, but not as close as they did on wells to be drilled. Footage actually made proved to be in excess of the forecast figure.

Wreaths to Companies For Wildcat Strikes!

Review of wildcat drilling operations, based upon THE OIL WEEKLY completion records, show that 32 major companies last year drilled 28.82 percent of all wells drilled in the United States, drilled 27.2 percent of all "exploratory" tests and were responsible for 35.6 percent of all productive exploratory tests. In the foregoing, step-out and wells seeking new pays are included.

On strict wildcats, Deeprock Oil Corporation lead all others in the percentage of hits. Deeprock drilled 13 "strictly wild" wildcats, and 5, or 38.5 percent of them were hits. Next was Cities Service Oil Company which drilled 14 such wildcats with 5 hits, a percentage of 35.7. Third was The Atlantic Refining Company which has been running up a pretty good record for some time. Atlantic drilled 19 wildcats and 6 were hits, for percentage of 31.6. Only four of the 32 majors failed to hit with a wildcat producer.

According to THE OIL WEEKLY'S records 5 companies drilled 50 or more such wildcats: Gulf with 57 had a "hit" percentage of 19.3; Humble with 71 wildcats, a percentage of 12.7; Magnolia with 59 wildcats, a percentage of 23.7; Sinclair with 53, a percentage of 7.5; The Texas Company with 136, the greatest number of all, or 14.7 percent.

Counting wells aimed at new pays, extensions, etc., some of the companies made a better record than is indicated above. A table giving full details on all such wells for the 32 companies will be published in next week's OIL WEEKLY.

To Respect Contracts

A declaration by President Betancourt (page 56, International Section) that Venezuela would not attack the validity of concessions held by foreign companies under the 1943 oil law is welcome news. Concern had been felt since Senator Romero Sanchez attacked as illegal concessions held by Creole, Mene Grande and Venezuelan Oil Concessions and asking restitution to the government of the value of all oil taken from these properties located in the Lake Maracaibo region. It is refreshing news that no new forays against oil companies are contemplated.

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The Week's News

CHARGES that pressure had been brought to bear from unidentified sources to head off an inquiry and the expressed determination of the nominee to fight for post he said he did not seek marked the opening of hearings last week on Edwin W. Pauley's appointment as Undersecretary of the Navy. Story below.

Subsidy Continued—Announcement that the stripper well subsidy would be continued until at least June 30 was made last week. Page 11.

Depletion Allowance—Supreme Court took an important action in holding that owners of lands leased for oil production were entitled to the depletion allowance on their share of the profits. Page 33.

Tidelands Title Developments—With California filing an 822-page answer with the Supreme Court in the government's suit to get title to the submerged lands, attention turned to the hearings before the Senate Judiciary Committee February 5 at which Secretary Ickes will denounce the House-approved resolution relinquishing federal claim to the underwater areas. Page 12.

Ickes' Doubt Resolved—Secretary Ickes now is seen as remaining a member of the President's cabinet until possibly 1948, his determination not to quit being reached when Senator McCaran of Nevada suggested that he step down. Page 12.

Canol Setup for Sale—The last vestiges of the Army's great wartime adventure in oil production will shortly be erased when the Foreign Surplus Property Liquidator offers for sale the Canol pipe line and refinery which represented some $70 million of the more than $130 million sunk in the project. Page 11.

Interior Wants Naval Reserves—Transfer of control and development of the naval oil reserves from the Navy to the Interior Department is favored by Secretary Ickes who said, however, there is no connection between that proposal originally made more than three years ago, and Pauley's nomination to a high Navy post. Page 10.

British Loan—The British loan agreement now is before Congress for approval, and the result of the fight which is expected on the legislation may show popular sentiment with regard to another experiment in the field of foreign loans which proved so costly after the close of World War I. Page 16.

Lend-Lease—Lend-lease took a decided drop following close of Japanese hostilities. Reverse lend-lease on oil and coal products totaled nearly $1.5 billion. Page 10.

Current Exports Heavy—Huge shipments of petroleum products, especially gasoline, reported going to England and the European continent. Page 10.

Strike Situation—Little progress shown on the strike front, although one more refinery has signed terms with the union. Steel workers still out. Page 11.

FPC Gas Hearing—Texans are strongly opposing any trend by the FPC to control end-use of gas. Hearing at Houston continues. Page 14.

Estimate for February—The Bureau of Mines estimates February demand at 4,430,000 barrels daily or 70,000 less than January. Page 13.

Pauley Thinks His Oil Experience Would Be Asset to the Government

Aroused by attacks upon him following his nomination to be Undersecretary of the Navy, Edwin J. Pauley, California oil man now serving as American member of the Allied Reparations Commission, told the Senate Naval Affairs Committee January 31 that he had not sought the post but intends now to fight for it and for vindication of his name.

A note of mystery crept into the hearings at their opening, when Senator Charles W. Tobey of New Hampshire, charged that pressure had been put upon him by unidentified business interests not to probe into Pauley's past activities.

The Senator told Pauley he did not ascribe any of the pressure to him, and was assured by the nominee that he had no hand in it, but suggested that it came from the Californian's friends and gave rise to the suggestion that "there must be something they are afraid of."

Under direct questioning by Tobey, Pauley denied that he ever urged members of Congress to vote for or against the pending tidelands resolution or that he ever told Secretary Ickes that the filing of the government suit was a political mistake, or that he could get campaign contributions if he could assure California oil men such a suit would not be filed.

However, Pauley said, he did introduce W. W. Clary, special assistant to the California Attorney General, to "two or more" senators whose names he said he could not recall, and that he also introduced him, orally or by letter, to House Speaker Rayburn.

Tells of Interest

"At the time of introducing Mr. Clary, I told Speaker Rayburn that I didn't want to deceive him—that I had a personal interest, that California had an interest and that the University of California had an interest," he testified. "I did not then, nor will I ask a senator or representative now, to vote a certain way."

Recalling that in 1937 the Navy Department supported a Senate resolution favoring extension of federal ownership to the tidelands, Tobey asked Pauley whether he would support that position if he became a Navy official. Pauley responded that he would take whatever position his superiors instructed him to take.

Persuing the thought further, Senator Willis of Indiana asked what Pauley would do if he became Secretary of the Navy. In that event the issue would be discussed with the President and appropriate congressional committees before any decision was made, Pauley said. However, Pauley said he knew of no plan that he may be stepped up when Secretary Forrestal resigns.

"Many of my friends have speculated on it," he added, "and I would hate to think that if I did a good job—and I intend to go a good job—that I would not be considered a qualified person."

Benefit, Not Liability

Pauley, described his experience and knowledge of oil which he said would be a benefit rather than a liability to the government, and told the committee that if confirmed he would advocate creation of a federal board of survey and planning to study the over-all phases of future reserves and requirements. The board would consist of the secretaries of the Navy, War and Interior, and it is necessary because, while various government agencies are working on some phases of future oil problems, no one group is studying the whole picture, he said.

Pauley testified that he has not been active in recent years in the affairs of The Petrol Corporation of California which he founded, but has been on leave since 1941, and would continue that separation while in the Navy Department.

Asked by Chairman Walsh whether the company had any contractural relations with the Navy, he said it undoubtedly sold to the military forces during the war. He said he resented the implication that his actions as undersecretary would be influenced by his business interest and added that as a stockholder, he would advise against the company bidding in Navy contracts, presumably during his incumbency.

Asked by Tobey whether his company

ever sold oil to Japan, Pauley said it had.

Conflicting stories of Pauley's interest in a Mexican oil contract for which approval was sought in 1942 were given before the committee, with Max W. Thornburg, former State Department Petroleum adviser testifying that President Roosevelt had interested himself in the matter, which secretary Ickes later denied was the case.

Thornburg charged that Pauley had threatened to have him fired if he did not approve the contract, calling for construction of facilities in the Pasa Rico area in return for 70 or 80 percent of the gas produced as repayment, together with preferential rights on 50 percent of all other oil products. He said that Ickes first approved the contract, later changed his mind.

Administration officials felt that the contract was detrimental to Washington's efforts to make a final oil agreement with Mexico and it was not approved, an aviation gasoline agreement later being made following the meeting in Monterey of President Roosevelt and Mexican President Camacho.

Ickes Testifies

Later Ickes told the committee of his uncomplimentary opinion of Thornburg and denied that he had originally approved the Pauley deal, later changing his mind.

Asked whether Pauley had told him that the filing of a suit seeking federal title to California tidelands would be a political mistake and that campaign contributions could be had from California oil men if it was held up, Ickes said the question was "embarrassing" but the answer was "yes."

Asked by Tobey whether he though Pauley was qualified for the post to which he has been named, Ickes objected, pointing out the nomination was made by "the man I work for"—President Truman. Later with respect to Pauley's possible ambitions to head the Interior Department, Ickes said "I think Pauley is too smart to want to be Secretary of the Interior."

Ickes charged that Pauley had been "accurate" in his testimony that he had no interest in the tidelands suit.

Transfer of Navy Reserves To Interior Said Old Plan

Proposals that control and operation of the naval petroleum reserves be transferred from the Navy Department to Interior, recently put forth to relieve Edwin Pauley from all suspicion of interest in oil matters should he be confirmed as undersecretary of the navy, have been before the administration for more than three years, Secretary Ickes said January 31.

Declaring that the idea had no connection whatever with Pauley, on whose nomination he refused to comment, Ickes explained that he laid it before President Roosevelt and later took it up with Secretary of the Navy Knox. In a meeting of himself with Knox and Secretary of War Stimson he said, it was agreed that there should be a petroleum commission consisting of three secretaries, with the secretary of the interior as chairman, "to which would be transferred all the activities of the Navy pertaining to the ownership and operation of naval reserves."

His suggestion has been put before President Truman several times, Ickes said, without effect. Ickes also approached Secretary of the Navy Forrestal, who rebuffed him, upon which he let the matter drop.

Heavy Exports of Petroleum Products Moving to England and the Continent

Large shipments of petroleum products are moving to England, France and other European countries, the export movement being so heavy, according to one industry official, that gasoline shipments abroad are currently exceeding the first-quarter-1941 levels. However, one British industry representative in New York believes this is exaggerated.

With the Caribbean refineries now operating at capacity, the combined American gasoline and distillate throughput for the British Isles and the continent is said to be approaching an average of 100,000 barrels daily. However, as the U. S. Army and Navy requirements lessen, the Caribbean refineries are expected to be operated shortly at virtually 100 percent for the European export trade.

Reasons for the heavy shipment of products abroad are:

1. Natural depletion of petroleum stocks in England and the European countries due to the war. One former PAW foreign operation official who recently surveyed the supply situation in England says: "The British three months ago were scraping the bottom of the petroleum barrel." Substantial imports of U. S. products are needed to replenish exhausted inventories.

2. For the last several months there has been an accumulative lag in the fulfillment of U. S. petroleum commitments to the United Nations Relief and Rehabilitation Association (UNRRA), and this slack is being taken up.

Price Control a Factor

3. Continuance of OPA's price control at home is forcing great amounts of petroleum products into export trade. One oil company official predicts that exports will increase still more until domestic OPA ceilings are lifted.

4. There has been an easing of the tanker situation, particularly on the East Coast.

Not only Britain but France, Switzerland and other European countries are making large purchases of petroleum products in the United States. The spokesman of one country says that even now the movement to France is nearly as heavy as that to England. France has announced her intention of importing 28 million barrels of products during 1946, most of it from this country. In 1945 nearly all the oil used in France was supplied by U. S. and British armies. Late last year exports to France from the United States were resumed, and of the 10 million barrels of oil imported by France since the end of the war, 9 million barrels have been from the United States.

British dollar scarcity, with resulting British currency control, is a hindrance to the continuance and growth of American petroleum export trade. Until recently Britain was largely dependent on the United States as a source of products, due to the fact that the war had forced the discontinuance of the Abadan-to-London run in favor of the larger American haul. With the freeing of tankers, Empire trade is likely to center in the sterling countries unless some dollar protection in the form of a free currency exchange system is evolved. The administration's proposed $3.75 billion loan to Britain is the only way, according to its sponsors, by which British trade and currency control will be lifted. Some relaxation of these controls regarded as essential if the American petroleum industry is to look forward to healthy expansion abroad.

Lend-Lease Takes Sudden Drop as Hostilities Cease

Total exports of petroleum products from the initiation of the lend-lease program to September 30, 1945, totaled $2,074,143,000, it was disclosed last week in President Truman's quarterly report.

How sharply the end of the war cut oil exports was shown by figures disclosing that shipments during the first six months of last year aggregated $489,701,000 but in the following three months amounted only to $82,077,000.

Under reverse lend-lease the President disclosed, we received petroleum and coal products to the value of $1,475,380,000.

A breakdown of the figures showed that lend-lease petroleum exports to the United Kingdom up to October 1, last, amounted to $1,530,307,000, while shipments to Russia were valued at $111,075,000; to Africa and the Middle East, $94,426,000; Latin America, $244,000; China, $7,087,000; India, $161,721,000; Australia, $136.721,000, and New Zealand, $16,158,000.

Kerlyn Given Extension

Mississippi's Mineral Lease Commission has granted a 90-day extension to Kerlyn Oil Company on its lease of approximately 400,000 acres of submerged land in the vicinity of Mississippi Sound. Kerlyn paid $25,000 for a year's lease on the property and was to have completed surveys of the area and either drill a test well on some portion of the lease, or relinquish the entire lease, or continue to work and lease specifed parts of the leased area. Bad weather and other factors interferred, however.

Little Improvement Seen In Labor Strike Situation

Little change was apparent in the strike situation throughout the Gulf Coast last week. Steel companies still were tied up. Slow progress was being made in refinery negotiatious, but settlements were announced by one group only, Pan American Refining Company. Other refineries were still trying to iron out differences with bargaining committees.

Interest centered in Houston where both Hughes Tool Company and the Reed Roller Bit Company, are tied up by the steel strike. The Reed Company is entirely out of production and officials reported that there has been no change in the situation since last week. At Hughes there has been an average gain of 10 percent daily in the number of employes returning to work. On February 1, approximately 2800 men were at work.

Hughes Tool Company made an offer of 15-cents an hour increase last week and the union turned it down. A representative of the company said that this offer still stands. The demand is for 18½ cents. A representative of the company stated that they cannot operate at a profit and grant such a wage increase.

Settlement announced by Pan American Refining Company, at Texas City, follows the pattern set by other refineries and was for an 18 percent increase, effective February 18 when the plant goes back to a 40-hour week. The company is now employing about 1250 men and will need about 200 more.

Humble Oil & Refining Company announced a 3-cent wage increase for its refinery employes during the week. This company had granted a 15 percent raise earlier, with the promise that the prevailing wage scale would be met when it had finally been agreed upon. Humble's union is independent.

In the Beaumont-Port Arthur area, Magnolia Petroleum Company, Gulf Oil Corporation, and The Texas Company, were still negotiating the differences, but no settlement had been announced by any of the three.

Developments in the national steel strike were being watched with much interest throughout the Gulf Coast, since this district controls many items of oil field equipment manufactured.

Plugging Law Enforced

The Oklahoma Corporation Commission will put into effect a law which requires the licensing of persons, companies or corporations engaged in the business of pulling casing and plugging oil and gas wells. A hearing will be held in the state capitol building at Oklahoma City, March 8, when all applicants for a license for this type of work will be examined to determine eligibility. The measure is designed to guarantee satisfactory plugging of abandoned wells and although the order was issued a year ago, it is only now being enforced.

Stripper and High-Cost Producers Subsidy Is Extended Until June 30

Stripper-well and high-cost producers, who for several weeks were on the anxious seat, had their minds relieved January 30 when Stabilization Director John C. Collet announced that he had directed the Reconstruction Finance Corporation to continue premium payments until June 30, "unless petroleum price ceilings are suspended before."

Although the announcement made no mention of what would be done with the subsidy after midyear, it is generally expected that if price control is continued for another year from June 30, as urged by President Truman, the premium payments likewise will be continued as a device to forestall an irresistible demand for an increase in price ceilings.

"Withdrawal of the subsidy at this time," Collet said, "would cause an intense demand for substantial increases in crude oil ceilings. A rise in crude oil prices would require a reorganization of the price structure for petroleum products which would be likely to cause an increase in the cost of living and such a development now would be highly detrimental to stabilization."

Collet's announcement was seen as heading off an investigation which Representative Wright Patman of Texas, chairman of the House Small Business Committee, had indicated he would launch immediately if subsidy payments were discontinued, with a view to getting a crude price increase.

Commenting upon Collet's action, Secretary Ickes told a press conference that the stripper well premium payments "will be needed after June 30 in the absence of a price increase."

Ickes made clear his belief that so long as present price ceilings are enforced the subsidy should be continued, but said his most recent interest in price had been in connection with the fuel oil situation, leading to the increase in Districts 1, 2 and 3 announced by OPA January 24.

Five additional crude pools were put on the subsidy list by OPA January 30, with premium payments to take effect as of January 1.

The total daily production of the five pools was figured as approximately 7500 barrels, representing one-hundredth of one percent of the total output of the nation, from 593 wells, or approximately one-tenth of one percent of the country's total.

Additions to the subsidy list are:

Nebraska: Schubert Pool, Richardson County, 35 cents.

Oklahoma: Earlsboro Pool, Seminole County, 13 cents.

Texas: Blue Ridge Pool, Fort Bend County, 11 cents; Taylor-Link Pool, Pecos County, 20 cents, and Toborg Pool, Pecos County, 10 cents. The Toberg pool previously had been granted a premium of 25 cents a barrel.

Plan to Allocate Funds For Science Put Forward

Favorable action last week by the Senate Commerce Committee on the Kilgore bill to establish a national science foundation was followed by introduction by eight senators of a new measure providing for the formation of an independent corporation by 50 outstanding scientists and laymen, to evaluate the changing needs of scientists, report to Congress and allocate the funds Congress appropriates. The measure was introduced by Senator Willis of Indiana.

Willis, urging that the bill be referred to the Commerce Committee so that hearings on the subject might be reopened, told the Senate it safeguards the independence of science at the same time that it provides for federal financial support, and eliminates political control far more than does any of the previous proposals.

Bill Seeks to Bolster Mining Methods Schools

Legislation to establish modern methods of mining in one land grant college in each state, under the supervision of the Bureau of Mines, was introduced in Congress January 31 by a group of western Senators who declared their proposal "may lead to valuable discoveries of minerals, oil and gas depots to supplement the Nation's shrinking resources."

Sub-stations with the latest geophysical equipment would be available to land grant colleges which offer accredited courses in mining engineering, in addition to the plant in one college in each state. Qualified land grant college students and students taking prospecting courses would be given vacation employment in the Bureau of Mines.

Canada Doesn't Want Canol Setup

The Foreign Surplus Property Liquidator shortly will ask for bids on the Canol pipe line and refinery, which the Canadian government has said it does not want and has waived the option to purchase given it in the agreement for the $130 million wartime project of the Army.

The pipe line, nearly 600 miles long, and refinery are reported to have cost the government something over $70 million, only a fraction of which is expected to be recouped through their sale.

Change of Government's Viewpoint on Tidelands Charged in State's Answer

An 822-page answer to the government's suit seeking Federal title to California's submerged and reclaimed lands was filed with the Supreme Court January 28 by State Attorney General Robert W. Kenny. Included is a defense of the ownership of 21 other coastal and four Great Lakes states which, Kenny said, would be directly affected by the suit. Included in the group defended are Texas, Louisiana, Mississippi, Florida, Pennsylvania, New York, Ohio, Illinois and Michigan.

Kenny asserted that the original 13 states became vested with title to ownership of all underwater lands at a time prior to the formation of the United States, and when California was admitted to the Union "on an equal footing with the original states, it became vested with the same ownership in fee simple of all submerged lands."

State title to these lands, he told the court, has been recognized by the government throughout the years, and in numerous instances it "has requested and accepted from California grants, leases, easements and other interest in and to tide and submerged lands both under the marginal sea of California and its bays, harbors, rivers and lakes."

Only recently has it been "that the present incumbent in the office of the Secretary of the Interior, and in the Department of Justice of the United States have asserted that there is any distinction between the ownership of lands on the open coast below mean low water mark, tidelands along the cost, and tide and submerged lands in navigable bays, harbors, rivers and lakes, despite the fact that plaintiff has since 1850 determined, recognized, and acquiesced in the fact that there is no distinction whatever in the ownership of the state to all lands underlying navigable waters below the line of ordinary high water mark within the exterior boundaries of the state, including those along the coast," he said.

All the issues raised by the Department of Justice have been adjudicated against the government and in favor of the defendant in the Mission Rock Company case, holding that California became vested with title to all tide and submerged lands there in issue by virtue of her sovereignty and that the defendant in that action owned the submerged lands involved by a grant from the state, he contended.

Kenny argued that the United States has no interest in any oil or other minerals in the submerged lands. A final decision holding the states to be the owners of their submerged lands is essential, he said, in view of the widespread activity of certain promoters and speculators who have been filing certificates of location hoping to get leases along the coastal areas of the state. Many of these applications have been held in abeyance and have not been rejected finally by the Department of the Interior, he added.

Huge Volume Affected

A compilation showed that the suit may affect 65,256 miles of submerged or reclaimed lands beneath coastal waters, bays, harbors and inland navigable rivers and lakes, including 1957 miles in Texas, 2807 miles in California, 5277 miles in Florida, 2435 miles in Mississippi and 7629 miles in Louisiana, all states with present or potential underwater oil resources.

As in the case of California, the answer set forth, the government by its actions has recognized the sovereignty of Texas over its submerged lands, on several occasions when it was forced to exercise its power of eminent domain by condemning portions of submerged lands, acknowledging in such actions that the lands were owned by Texans.

As Kenny filed his answer, Senator Homer E. Capehart of Indiana introduced a resolution in the Senate calling for postponement of hearings by the Judiciary Committee on the House-approved quitclaim resolution until after the court has handed down its decision.

In his resolution, he called attention to a 1937 Senate resolution asserting federal title to the submerged lands and "all petroleum deposits underlying the same" and authorized the Attorney General to bring suits to acquire the lands for the government.

Will Attend Hearing on Tidelands Title Bill

Four Louisiana officials planned to appear before the Senate Judiciary committee in Washington February 5 for hearings on a proposed resolution by the federal government to quiet the titles of states to lands beneath tidewaters and navigable waters.

Attorney General Fred S. LeBlanc said, he will content that "Louisiana is not merely defending an attack on her sovereignty, but fighting to save her financial stability and advocating the rights of countless private lesees, producers, investors, bondholders and taxpayers who have placed full faith and confidence in state sovereign ownership of the lands under discussion."

Scouts Set Dates

Dates for the National Oil Scouts and Landsmen's Association's first convention since 1941, have been determined as May 23-25 at Jackson, Miss. H. F. King, president, also announced that the 1946 issue of the yearbook will be ready for distribution earlier in the year than the 1945 book.

Ickes Indicates Longer Stay Interior Post

Taking it the way it reads, Secretary Ickes last week issued a statement that he had decided to remain in the cabinet.

His announcement was made in reply to a newspaper interview by Senator Pat McCaran of Nevada who said "the happiest thing that can come to the western states would be the resignation of Interior Secretary Ickes."

Ickes, January 31, released a written statement, saying: "Senator McCaran has once more made my life as Secretary of the Interior worth living. I thank him for his recent comment that the West—meaning Senator McCaran—would be happy if I should resign because my doubts about continuing here have been resolved."

Asked by reporters to clarify the statement, Ickes fenced and refused to say that he meant he would sit it out until 1948—but didn't say he wouldn't.

In his statement, the Secretary threw a few words at the Senator which will not improve their relations, but expressed himself in favor of McCaran's bill for an inventory of our natural resources. Possibly, too, the pair may tangle February 5 when Ickes appears before McCaran's committee to testify in opposition to the legislation relinquishing federal claims to ownership of the Tidelands.

New Rubber Setup Formed As U. S. Agrees on Price

A combined Rubber Committee, representative of the six major rubber producing and consuming countries, has been set up to continue international allocation control over rubber supplies during the period of world shortage, carrying on the work previously conducted through the dissolved Combined Raw Materials Board.

George Tisdale of the Civilian Production Administration, will be United States member and group chairman.

Conclusion of negotiations whereby the RFC through the Rubber Development Corporation, will pay a price of 20¼ cents per pound for standard top grades of natural rubber from the Far East, delivered cob ocean-going steamer at Far Eastern port, was announced by the State Department.

New Wyoming Map

The U. S. Geological Survey has released a map showing the areal and structural geology of the Garland and Byron anticlines and vicinity, in Big Horn and Park counties, Wyoming.

The areal geology on the new map is the same as that on a map of the Garland anticline published in 1935, but the structure contours and status of drilling development shown are the result of recent investigations.

Copies at ten cents each may be had from the Survey offices in Washington, Casper, Wyoming, and Denver.

Demand for February 70,000 Barrels Less Than January, Bureau Estimates

February demand for domestic crude petroleum will be 4,430,000 barrels daily, a drop of 70,000 barrels from January and 391,600 barrels under the actual demand in February, 1945, it was forecast February 1 by the Bureau of Mines.

The bureau's figures were based on an actual demand for domestic crude in November of 4,581,000 barrels daily, compared with its forecast of 4,600,000 barrels, and current statistics for December and the first half of January indicating a demand of about 4,520,000 barrels daily, or approximately that forecast.

It was pointed out that the forecasts for January and February cover the larger part of the increased demand in the first quarter resulting from the necesisty of making up the loss in runs due to reduced refinery operations in September and October and to an increase in the estimates of naval fuel oil requirements and a substantial increase in expected civilian demands for gasoline, kerosine and heating oils.

Crude Stocks Higher

"A comparison of the actual stock position on December 31 with the estimates in the original world-wide petroleum supply survey prepared by the program division of the PAW indicates that stocks of crude oil in the United States were about 9 million barrels higher and that stocks of refined oils were about 9 million barrels less than anticipated," the bureau stated. "In addition, stocks in military custody have been depleted and stocks in distributors' and consumers' hands may be abnormally low.

"Unless total demand for all oils in the first quarter is materially higher than can now be foreseen, a sharp decline in the current rate of crude demand may occur in March as gasoline stocks reach the limits of storage capacity."

The bureau estimated that, based on actual demand for October and November and estimates for December, the total demand for all oils during the last quarter of 1945 may amount to about 5,060,000 barrels daily. Exports are estimated at 365,000 barrels daily and probably were about balanced by imports.

State forecasts for February, as compared with January, were as follows:

Texas, 1,890,000 against 1,950,000 barrels; California, 844,000 against 832,000 barrels; Oklahoma, 368,000 against 382,000 barrels; Louisiana, 368,000 against 365,000 barrels; Kansas, 254,000 against 260,000 barrels; Illinois, 198,000 against 206,000 barrels; New Mexico, 96,000 against 98,000 barrels; Wyoming 94,000 against 90,000 barrels; Arkansas, 74,000 against 76,000 barrels; Mississippi, 49,000 against 48,000 barrels; Michigan, 46,000, unchanged; Pennsylvania, 33,000 against 35,000 barrels; Kentucky, 29,000 against 28,600 barrels; Colorado 24,000 against 20,000 barrels; Montana, 20,400 against 21,000 barrels; Indiana, 13,000 unchanged; New York, 13,000, unchanged. West Virginia, 8200, unchanged; Ohio, 7000, unchanged; Nebraska, 800, unchanged; other states, 600 against 500 barrels.

Texas Leases Offered For Sale on March 5

Leases on 25,717 acres of state school lands will be offered at a sale scheduled for March 5 when the State School Land Board will receive sealed bids.

The leases include land in Cooke, Culberson, Eastland, El Paso, Montgomery, Panola, Reeves, Shackelford, Starr, Webb, Winkler, Hidalgo, Jackson, Clay, Milam, Robertson, Shelby, Galveston, Kleberg, Kennedy, and Calhoun counties.

Crude Oil Production in the United States

(Estimates compiled by the OIL WEEKLY. All figures indicate daily averages in barrels.)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED Feb. 2	Jan. 26
Alabama	700	650
Arkansas	77,500	77,000
California	836,500	837,500
Colorado	22,000	23,000
Florida	100	100
Illinois	207,800	206,500
Indiana	14,250	14,100
Kansas	239,600	254,450
Kentucky	29,600	29,500
Louisiana	367,300	367,400
North Louisiana	78,700	78,750
South Louisiana	288,600	288,650
Michigan	45,500	45,300
Mississippi	56,750	54,300
Missouri	100	100
Montana	19,800	19,700
Nebraska	750	750
New Mexico	99,350	99,250
New York	14,000	14,100
Ohio	7,100	7,000
Oklahoma	387,400	392,650
Pennsylvania	34,150	34,100
Tennessee	35	35
Texas	2,036,750	2,036,850
Upper Gulf Coast	511,650	511,700
East Texas Field	320,150	320,100
Rest of Eastern Texas	142,400	142,500
Southwest Texas	338,150	338,100
West Texas	495,700	495,650
North Texas	152,700	152,750
Panhandle	81,000	81,050
West Virginia	8,200	8,100
Wyoming	97,500	97,700
Total United States	4,602,685	4,620,135

Editorial Index to 1945 Issues Available Upon Request

Due to the paper shortage, THE OIL WEEKLY again is deviating from its long-standing previous custom of incorporating its Annual Editorial Index in one of its regular issues mailed to all subscribers. The complete editorial index covering all issues of THE OIL WEEKLY published during 1945, bound separately, will be sent without charge to each subscriber requesting a copy.

Address Circulation Department, Box 2608, Houston 1, Texas.

INGAA Warns of Federal Intrusion in Gas Industry

"Tremendous and all powerful forces" are seeking to drive natural gas from its place as "the superior fuel," John A. Ferguson, executive director of the Independent Natural Gas Association of America, warned delegates at the association's first annual meeting at Houston January 28.

Ferguson urged the organization to assume leadership and to act aggressively to prevent the opposition from attaining its goal.

The association went on record as favoring preservation of democratic principles of private ownership, individual initiative and competitive enterprise free from government competition or proprietorship in any form; ratable taking of natural gas on an equitable basis; limitation of jurisdiction of federal agencies to the reasonable regulation of the interstate transportation of natural gas and its sale in interstate commerce for resale; safeguarding the benefits of free competition among fuels; and retention of the option of expensing intangible drilling costs and the percentage depletion allowance provisions of the income tax laws to prevent disruption of stabilized industry economy.

INGAA also requested the Bureau of Mines to plan and carry out a greatly enlarged and progressive research program on natural gas necessary to keep pace with the rapidly growing national importance of this natural resource, and recommended that Congress appropriate sufficient funds for that purpose.

Wesley E. Disney, association counsel, and counsel for the Natural Gas Industry Committee, reviewed progress of the FPC natural gas investigation, charging that "the power commission intends to take over the gas industry to the fullest extent which Congress will permit it to go."

The association whose membership totals 1280, reelected all of its officers and added six new directors for 1946. Officers are E. Buddrus of Chicago, president, Panhandle Eastern Pipe Line Company, president; Paul Kayser, Houston, president, El Paso Natural Gas Company, first vice president; J. H. Dunn, Amarillo, president, Shamrock Oil & Gas Corporation, second vice president; F. W. Peters, Tulsa, treasurer, Oklahoma Natural Gas Company, treasurer, and Ferguson, executive director.

New directors are H. W. Bass, Dallas; Frank Buttram, Oklahoma City; B. A. Hardey, Shreveport; D. A. Hulcy, Dallas; F. S. Kelly, Jr., Shreveport, and Homer W. Long, Guymon, Oklahoma.

Venezuela Supplies

The steamship "Running Knot" which left Houston last week carried a large cargo of oil-field supplies for Venezuela. Large rigs, drilling and exploration trucks, tubular goods and several hundred packages of oil well supplies are included in the cargo destined for Guanta, La Cruz and Maracaibo.

Texas Witnesses Challenge Widened Scope of FPC Natural Gas Hearings

By WELDON B. HILL, Staff Writer

The widened scope which the Federal Power Commission has initiated into its investigation of the natural gas industry was flatly challenged by a parade of Texas witnesses at the FPC hearing opening in Houston last week.

Creation of the all-powerful political instrument of "end-use" control of energy resources in granting certificates to construct interstate pipe lines was the basis of the challenge.

Theme of the testimony paraded by Texas witnesses was described at the outset of the hearing by Governor Coke Stevenson when he expressed a fear that "nationalization of the gas industry might be achieved indirectly, with 'conscious obscurity' to hide such a move until accomplished."

Philosophy of a political though described as seeking "to substitute a system of regimented and managed economy for the American system of individual initiative and free competitive enterprise" also was injected into the record.

Aim of Texas Attack

The line of attack by Texas seeks to keep FPC from asserting under present provisions of the Natural Gas Act any powers or functions which directly or indirectly trespass upon state authority over production, conservation, gathering and processing of natural gas or the initial sale thereof by a gatherer or producer to an interstate line. Texas witnesses expressed the desire of legislation to insure this directive.

Also, the Texans emphasized that in granting certificates for the construction of interstate pipe lines, FPC should not consider end-use of gas because to do so "leads indirectly to nationalization of all our energy resources and ill-effects that accrue therefrom."

On the other hand, in cross-examining witnesses, attorneys for coal and railroad interests indicate that some legislation should be passed to determine the proper use and price of natural gas. Whether similar legislation over other energy resources is desired by attorneys for the coal and railroad interests was not brought out.

The scope given the investigation by FPC was challenged during examination of George A. Hill, Jr., president of Houston Oil Company of Texas, by Commissioner Richard Sachse.

In answer to a series of questions by the commissioner, Hill acknowledged that FPC did have the authority to conduct the investigation but declared that had he been a member of FPC "I doubt if I would have given it the scope it has been given."

Hill said that in his opinion the FPC has no authority to make the investigation except as a basis for making recommendations to Congress for further legislation. He added that in view of the previous reports issued by the FPC, the industry fears that FPC will recommend that it (FPC) be given control of end-use, and that he and the other Texas witnesses were trying to show the FPC should not have such control because it would lead to regimentation for this and possibly other industries.

Just as the Mexicans during the battle of San Jacinto, cried "Me no Alamo" and "Me no Goliad," the Texas testimony, is aimed at having members of the FPC cry "Me no end-use" and "Me no regimented economy" at the conclusion of the Houston hearing.

That such testimony is reaching home was indicated in an answer by Commissioner Harrington Wimberly to Hill's charge that "the genesis of the proposals (federal industry-control) is in the report of the National Resources Committee (of which FPC Chairman Leland Olds was a member) and of that agency of the federal government itself,—the Federal Power Commission which is seeking the new comprehensive and authoritarian powers conferred by this legislation."

"I think, Colonel," Commissioner Wimberly said, "for the record, it should be stated that your statement is not in keeping with any facts as to my knowledge, and I think I would have knowledge. I don't think it has any place in the record since it is making a rather positive statement that the FPC is seeking powers to which I would object as much as you and I would like to state, just as a part of the record, that to my knowledge there are no such proposals by this commission."

At times, Hill's testimony was hotly challenged by the commissioners themselves. When Hill charged that "the FPC is in effect proposing new legislation that it hesitates to tender in a definite draft employing legal terms involving the precise commitments that flow from accepted definitions and thereby meet the forthright issues thus easily resolved by the application of the lessons of human experience in the science of government and especially the lessons learned in the evolution of the American constitutional system," Nelson Lee Smith, supervising commissioner at the Houston hearing, declared

"Now, Colonel Hill, you have a pretty pithy paragraph there in which you use some pretty rugged language, don't you?"

"Well, I do present the question, Mr. Chairman, with all of the emphasis of which I am capable," replied Hill.

Commissioner Smith said that it was the intention of FPC to submit for criticism of the interested parties the conclusions and recommendations which it intends to formulate and submit when the investigation ends.

The line of thinking of the Texans regarding this issue was expressed when Hill declared that he felt the commission would make its recommendations and "we probably will meet again in congressional committees."

As to the many-sided questions invoked into the investigation, witnesses expressed the sentiment that FPC was conducting an inquisition of state authorities over subject matter not within their (FPC) legitimate purview and it seemed to be largely conducted not by members of the commission but by attorneys of interveners (coal and railroad) not concerned with the development of appropriate testimony related to proposed legislation but to throttle the right of all sorts of American citizens and regions of country to have the use of natural gas as fuel.

Hill contended that the 1940 annual report of the FPC "seeks to deny the people of this country a free choice of what fuels they want to use" for domestic and other purposes.

Charles I. Francis, counsel for the Texas Governor's Natural Gas Committee, asserted that while Texas people do not know the views of the individual commissioners. Hill's testimony was designed to strike at the group which is seeking to set up a program to which the Texas group objects. Francis pointed out that Chairman Leland Olds of the FPC was a member of the Natural Resources Committee which filed the report proposing federal control over all fuels and that "we are proceeding on the broad general grounds that we must op-

THE OIL MAN'S CALENDAR

FEB. 11	FPC Gas Hearing, Biloxi, Mississippi, Buena Vista Hotel.
19	FPC Gas Hearing, Chicago.
25–28	AIME Annual Meeting, Chicago, Palmer House.
MAR. 21–22	Southern Gas Association, Galveston.
APRIL 1– 2	Society of Exploration Geophysicists, Annual Meeting, Chicago, Stevens Hotel.
2	FPC Gas Hearing, Charleston, W. Va.
2– 4	American Association Petroleum Geologists, Annual Meeting, Chicago, Stevens Hotel.
11–12	Pacific Coast District, Production Division API, Spring Meeting, Los Angeles, Biltmore Hotel.
17–19	Natural Gasoline Association of America, Annual Convention, Dallas, Baker Hotel.
29–30	And May 1, Independent Petroleum Association of America, Mid-Year Meeting, Houston, Rice Hotel.
MAY 7– 8	American Gas Association, Natural Gas Dept., Cincinnati, Hotel Gibson.
7– 9	National Association Corrosion Engineers, Kansas City, Missouri, President Hotel.
23–25	National Oil Scouts and Landmen's Association, Annual Convention, Jackson Mississippi, Hotel Heidelberg.
28–29	American Petroleum Institute, Directors' Meeting, Fort Worth.
JUNE 13–14	Production Division API, Spring Meeting, Pittsburgh, Pa., William Penn Hotel
NOV. 11–14	American Petroleum Institute Annual Meeting, Chicago, Stevens Hotel.

Federal Power Commission at Texas Hearing

Three members of the Federal Power Commission and an FPC trial examiner are shown above at last week's natural gas hearing in Houston. They are, left to right, Harrington Wimberly, commissioner; Nelson Lee Smith, supervising commissioner; Marvin Farrington, trial examiner, and Richard Sachse, commissioner.

pose the forces seeking to bring about" any such program.

Francis cited the commission's decision in the Boone, Iowa, case to show what he said was a direction in which the commission appears to be going on the end-use question.

The commission declared that a rehearing had been granted in the case but Texas witnesses brought out that granting a rehearing did not constitute a reversal of FPC's original opinion.

Price for Gas

All concerned were in apparent agreement that the price of gas at the well-head should be increased. However, method to be employed in advancing the price was in conflict.

Texans declared that demand created by new markets was the reasonable method to be employed in advancing price. Witnesses pointed out that the well-head price of gas in Texas had increased as the result of the piping of gas into interstate markets.

In questioning witnesses, attorneys for coal and railroad interests attempted to show that government control over ratable takings and price would serve in advancing prices at the well-head.

Tom J. McGrath, attorney representing many CIO unions and other interests, including coal and railways, queried Col. E. O. Thompson, member of the Texas Railroad Commission, as to whether the Connally Hot Oil Act did not serve as a means of advancing crude oil prices.

Thompson replied that the Connally Act served to reduce the amount of surplus oil resulting from a flooded market by the East Texas field and that the price only advanced when the demand exceeded the supply.

As to exportation of natural gas from Texas, members of the Texas Railroad Commission were in disagreement. Thompson advocated the export of natural gas to all markets regardless of end-use.

Chairman Olin Culberson declared that he did not believe that Texas gas resources should be squandered by being taken out of the state at a cheap and inadequate price in competition with coal and other fuels in those areas which possess large coal and other fuel reserves. Such a practice would be harmful to the Texas producer, royalty owner, and to state economy, he said. However, he thought federal intrusion in this field was unnecessary and unwise.

Commissioner Beauford Jester also declared his opposition to exportation of gas from Texas in the face of low well-head prices in Texas as compared with higher prices in areas where Texas natural gas would be transported.

The conservation of natural gas in Texas also was discussed, witnesses declaring that price is the paramount factor in conservation of any commodity.

Coal and railroad attorneys were eager to bring out that a "billion and a half" cubic feet of gas were being wasted annually in Texas by flares. These attorneys, through their questions, indicated that the Texas Railroad Commission is lax in gas conservation and that government legislation was desired to this end.

Commision members countered with the fact that no waste was occurring at strictly gas wells and that only casinghead gas which lifts oil from underground reservoirs is being flared. Commission members testified that wherever economically feasible, such casinghead gas is being conserved by recycling. Culberson admitted that the Railroad Commission lacked the authority to prevent "economic" waste of gas and added that he did not believe anyone should have this authority.

Texas commissioners agreed they had no authority at present to prevent the flaring of casinghead gas but declared that if it is to be prevented the people of Texas are more familiar with the problem and that they rather than a federal group should motivate legislation or action.

In re-direct examination, Culberson said inability of the industry to get materials during the war has precluded many steps that would have been taken to prevent the flaring of gas.

On cross-examination by P. H. Porter, representing the Lake Michigan Docks Association, Thompson drove home the following thoughts:

Thompson's Pointers

"Proper use of gas is any use for which the user wants to burn it, except flaring; that casinghead gas that is being flared could be stopped altogether, but only if the production of oil were stopped from those wells; that Texas producers are only concerned about a market for their gas; that everybody who wants gas in Texas is getting it and that Texas therefore wants to sell its gas to any markets available; ratable take is desirable, but it is doubtful that this by itself would increase the price of gas at the well-heads or that any legislative action will by itself increase the price of gas; that the well-head price of gas in the Panhandle area of Texas has doubled in the last ten years as a result of increased market demand."

In opposition to any extension of the FPC's powers to gas production and prices, S. Maston Nixon of Corpus Christi, declared the FPC should have no more authority to set the price of Texas gas at the well-head than the Interstate Commerce Commission has to fix the price on a Texas ranch of a steer shipped to the Chicago market.

He reasoned that federal control over production and prices would stop exploration for new gas fields, rather than add to the nation's gas reserves.

Proration of Markets

Control of end-use as a gas conservation measure was denounced by Dr. E. DeGolyer, geologist and engineer. De-

Golyer recommended the following program as "highly desirable if not essential in the public interest and to the future well-being of the producing branch of the natural gas industry": (1) ratable take in the individual field; (2) proration of markets between competitive fields, and (3) adequate well-head price for all marketed gas.

DeGolyer contended on cross-examination that price should be the only regulator of end-use.

Questioned by McGrath, DeGolyer said that he believed the price of gas in consuming areas should be competitive with the price of coal and oil, but that the price should be determined by competition alone. Apparently differing with coal attorneys, the geologist told McGrath that coal and other fuels are not restricted as to end-use by law and therefore neither should gas be restricted.

The proved natural gas reserves of Texas were estimated by DeGolyer to be in excess of 82 trillion cubic feet as of January 1, 1945.

DeGolyer presented a summarized breakdown of the estimated reserves by Texas Railroad Commission administrative districts but attorneys for the coal and railroad interests were more concerned about the reserves of individual fields, especially those recently discovered.

Gas in State's Economy

Texas' case as to the importance of interstate pipe lines was emphasized by N. C. McGowen, president, United Gas Pipe Line Company, when he cited that "operation of a vast network of interstate pipe lines has enabled many Texas communities to have natural gas service during the past 15 years, and has added more than $16,800,000 annually in salaries, taxes and income to the state's economy."

McGowen also told FPC that a tremendous waste of gas in Texas fields has been halted by construction of pipe lines. Contention that such pipe lines deplete the state's gas reserves was refuted by McGowen.

Grover Sellers, Attorney General of Texas, said that confusion will be the only result from any attempt at dual control of Texas gas production by federal and state agencies, and for that reason the federal government should confine itself strictly to the powers and functions delegated to it by the states.

On cross-examination, Sellers emphasized that he represented the Texas Railroad Commission on legal matters only and not policy. This was in answer to coal and railroad attorneys questioning concerning Texas' participation in the Memphis Gas case.

Fear that federalized oil and gas industry will substantially lessen value of these great natural resources of Texas and thus weaken the financial support of Texas' educational system, was expressed by Dr. L. A. Woods, State Superintendent of Public Instruction.

"Under such conditions there would be a strong temptation to accept federal support, which, in turn, might lead to federal control of education in Texas," Woods said. "If the federal government pays the state's educational bills, it will call education's tune in Texas. This, history teaches us, would be detrimental to our national welfare."

George Fancher, professor of petroleum engineering University of Texas, in a paper prepared by him and Harold Vance of the petroleum engineering department, Texas A.&M., contended that keeping natural gas in Texas merely to bait industry is "fantastic," and that a sound economic policy based on free interstate commerce governs the development of industry. Cost of fuel in the average manufacturing enterprise amounts to only 5 percent they said, and restriction of natural gas to state points only won't bring industrial plants to Texas.

At the outset of the hearing, Commissioner Smith made a statement which indicated that even members of FPC have different degrees of understanding of the commission's legal rights under the Natural Gas Act.

He stated that certain interested groups have taken the position that particular cases, especially those involving major certificate applications, should be deferred until after the natural gas investigation has been completed. Gas companies, on the other hand, he said, sometimes pointing to actual or threatened emergencies, urged that such matters not be delayed.

Can't Delay Projects

"It should be evident that the commission could not appropriately or lawfully adopt a policy of standing still over a period of months by failing or refusing to perform its plain duty under the Natural Gas Act," Smith declared. "When the commission instituted the natural gas investigation it did not—as indeed it could not without disregarding its legislative mandate—suspend the operation of the Natural Gas Act for an indefinite period of time."

Some observers believe that Commissioner Smith's remarks were made as a result of statements given by Chairman Olds before a Senate Appropriations Subcommittee, in which he said that during the investigation of the natural gas industry "only those certificates are being authorized where an absolute need is shown."

Aiding the three FPC commissioners, ducting the hearing at Houston are Marvin Farrington, FPC trial examiner, Burton N. Behling, director of the natural gas investigation, and Frank Field, FPC attorney.

Future FPC hearings are scheduled at Biloxi, Miss., February 11, at the Buena Vista Hotel; Chicago, February 19, in the courtroom of the Circuit of Appeals, and Charleston, W. Va., April 2, in the State Capitol Building. The latter hearing had preivously been scheduled for March 19.

The Houston hearing probably will extend through February 8.

IPAA Suggestion Gets Support

Independent oil interests are displaying apprehension over new reciprocal trade agreements which it is expected the State Department will undertake this year under legislation giving the President authority to cut import duties and taxes by not exceeding 50 percent from present levels.

Considerable support has been given the proposal outlined in a resolution adopted at the Shreveport meeting of the executive committee of the Independent Petroleum Association of America last month for a general conference of federal, state and industry representatives to develop a policy with relation to the importation of petroleum, but there has been no indication that the State Department would be willing to adopt such a procedure.

While President Truman, in urging Congress last year to give him the authority to cut duties still further, assured that there was no intention of "trading out" American industries, oil men contend, the actual handling of the projected agreements will be unchanged from the prewar procedure which halved the import taxes on petroleum and paved the way for considerable imports.

Sterling Area Is "Out" If British Loan Granted

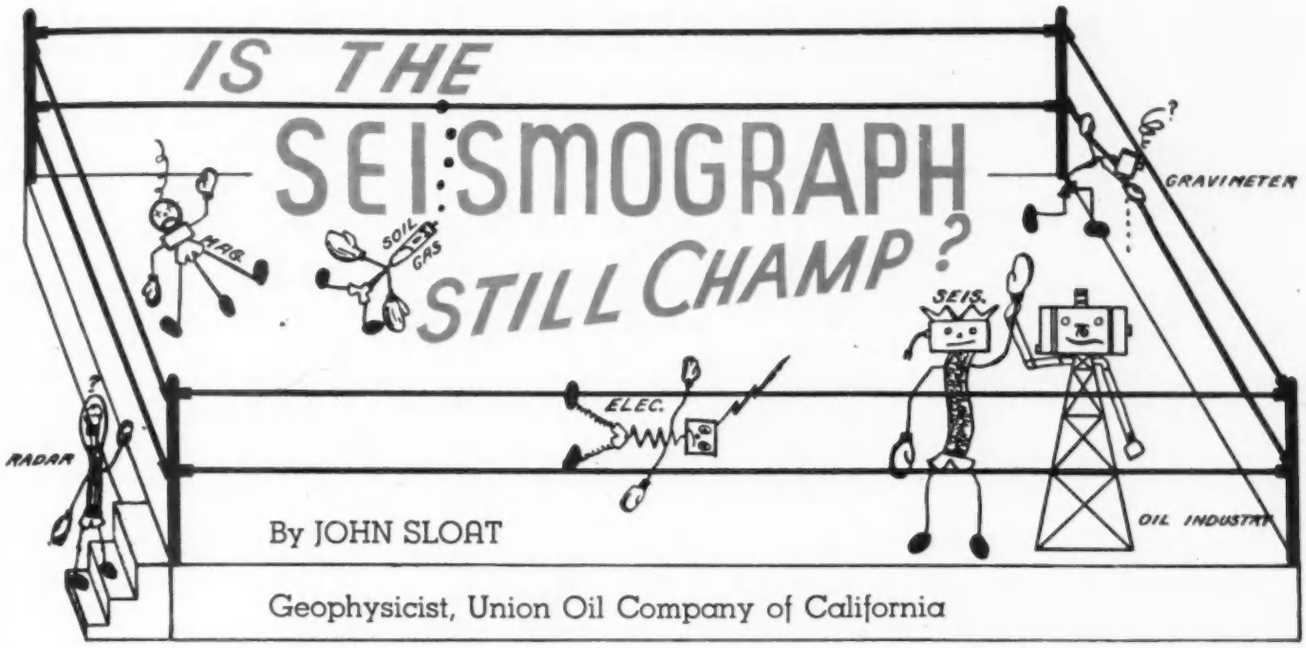
Speedy approval of a $3.75 billion loan to Britain, to pave the way for prompt abandonment of restrictions which are hampering oil companies operating in British and "sterling area" territory, was urged upon Congress January 30 by President Truman.

Congress was told that it "will set the course of American and British economic relations for many years to come" and that this will influence all international trade.

The most important purpose of the agreement from the American point of view, he said, is to cause the speedy removal of emergency controls exercised by the United Kingdom over its international transactions, through the relaxation of exchange restrictions and discriminations, the lifting of discriminatory import restrictions and the "reestablishment of peacetime practices designed to promoted the recovery of world trade."

Under the agreement, Britain will abolish the so-called "sterling area dollar pool," which has adversely affected American oil companies in the reconstruction or building of their properties in the Middle East, and will be able to pay in dollars for commodities purchased from the United States.

Chairman Spence of the House Banking Committee who introduced legislation calling for approval of the loan, announced that his committee would hold "fair and full" hearings to bring out all the facts.



By JOHN SLOAT

Geophysicist, Union Oil Company of California

OIL companies of the United States are finding that more than $30 million was truncated from their treasuries during 1945 to maintain seismograph crews in this country.

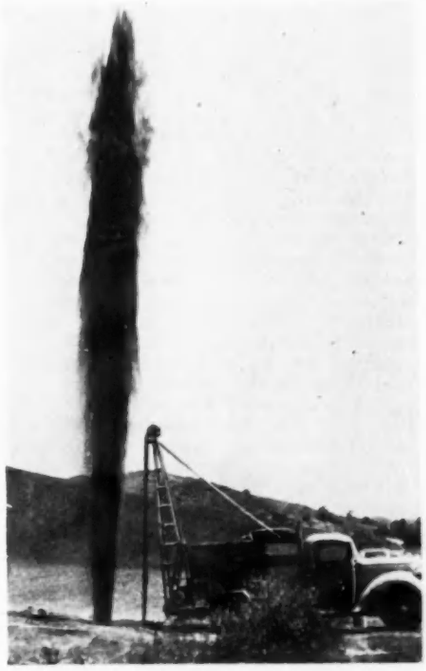
This is a large outlay of private capital, particularly when it is considered that this represents only one phase of exploration. To recapture this expense, seismograph work must be responsible for the discovery of approximately 60 million barrels of new oil potential. The discovery of one large field would satisfy this requirement.

No one expects every seismograph survey to result in a discovery. But the burden of oil prospecting has, for over ten years, been placed principally on this method. Therefore, it is reasonable to ask whether the best possible use is being made of this tool. None will deny that errors of omission and commission have been made with the seismograph—the drill proves this. But what are its limitations, how has it been misused, and has it reached its limit of usefulness to the oil industry? It may be said that the seismograph is still King of Instruments—that no other prospecting tool has found so much oil. But a cat may look at a king, so perhaps it is fitting to review this tool a little more closely.

Seismograph Oversold

To some extent, the seismograph has now been "oversold" to the exploration department. Ten years ago, when reflection shooting was on trial, we built up our defenses, pointed to important new discoveries, and in general implied that reflection shooting was the all-out answer to the needs of the exploration department. The shoe is now on the other foot: the easy structures have been found, and the geologists (having believed some of our propaganda) now demand that we find pinch-outs, fault traps and describe the position of the water table. It is not surprising that we geophysicists now find ourselves defending interpretations which we know to be nebulous and incomplete.

We all know that the seismograph depends on the reflection and refraction of sound waves for its effect. This is such common knowledge that we sometimes forget that in this fact lies the source of one of our greatest errors. There are only two physical quantities which can be measured directly with the seismograph in a surface survey. These are surface distance and time. In other words, we can place our instruments at a measured surface distance from the shot hole, and we can tell how long it takes a sound wave (born from chemical energy at the moment of explosion) to make the trip from the bottom of the hole, where the dynamite is exploded, to some underground velocity interface (which we hope represents an underground bed) and back to the surface where the instruments are located.



There she blows! But what are the odds that this survey will result in the discovery of oil? For one answer, read this article.

Assumed Velocity

In order to utilize this information, it is necessary to convert travel time to underground dip and depth. To accomplish this we *assume* the velocity of travel of the sound wave, then proceed to compute the depth and dip of the reflected wave which he have measured. Then we say that this represents the true position of some underground bed.

Experience shows that in many cases the observed reflections do actually come from known underground beds, and that these beds can be mapped successfully over large areas. But the primary fact is that these reflections are caused by velocity contrasts in the underground formations. The drill shows that there are many competent beds which do not give consistent reflections on our seismograms; conversely, it is often impossible to identify our reflections as coming from any known members of the subsurface. The fact remains, then, that the seismograph depends on velocity contrasts for its effect.

Now let us review the interpretational difficulties to which this fact leads. In the first place, we can not be sure that the reflections on our records always come from stratified beds. In some cases we know that reflections are obtained from fault planes; and in one recent case a careful analysis of an outstanding reflection which occurred on numerous records in a certain area, showed that it was coming from a high river bank over one mile away!

Also, our knowledge of the behavior of reflections where lateral gradiation, pinch-outs, overlaps, faulting and facies changes occur is incomplete and inadequate. For example, assume that a known bed is being mapped, and that geologic evidence indicates that this bed is truncated at a certain point by an upper member. Will the seismograph show this condition, and if so what

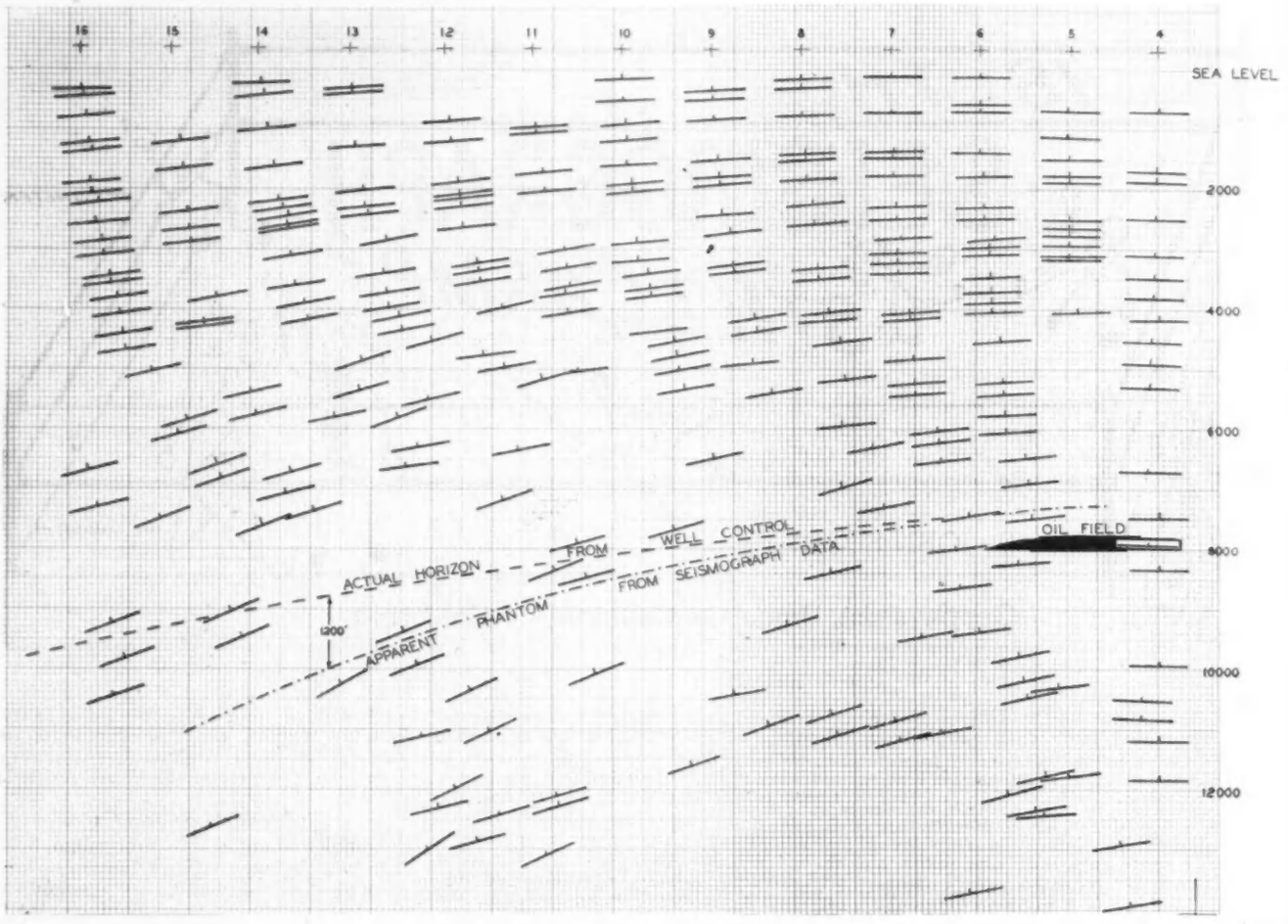


Figure 1. This cross-section shows how lateral velocity change may cause the seismograph to show dips which are too steep. Dips near the field are correct, but as shooting progresses down dip the average velocity to the indicated horizon decreases, causing a mismapping of the bed.

is the minimum angular unconformity which can be detected?

Give us the benefit of the doubt, and assume that we geophysicists can be sure that certain reflections are actually coming from known underground beds. Even so, we can not be sure that our computed depths are correct. We may start shooting near a well where the depth and velocity are known from a well survey; but as the survey moves away from well control, the velocity is apt to change. When this happens, incorrect mapping will result. Lack of knowledge of this lateral change in velocity has, in some cases, caused dry holes to be drilled on apparent seismograph closures. A few years ago, two companies each surveyed the same area, and both seismograph maps were virtually the same before being corrected for lateral velocity gradient. Both showed a plunging nose with merely a flattening along the axis. Then the geophysicists corrected the maps for lateral velocity change, each using exactly the same velocity information from two known wells. Company A came out with an apparent closure and drilled an expensive dry hole. Company B had reasoned that the lateral velocity change, shown from the known well velocities, would take place along the steep flanks without causing the contours near the crest to close. This turned out to be correct. This proves that we need more information concerning the behavior of velocity gradients when they are interrupted by structural folding and faulting.

In Figure 1 a case is shown where the seismograph dips (and correlations if they are present) are radically steeper than the true dips as shown from well information. A strong lateral velocity gradient exists down the steep flank. The dips and depths on the right hand side of the section, in the oil field, are correct but the average velocity from the surface to the indicated structural horizon decreases down the dip. Since the seismograph dips all along the section are computed from velocities observed in wells in the field, the resulting apparent dips on the flank are much too steep. If the regional velocity trends are known, seismograph maps and cross-sections can be corrected for this lateral variation. But what if the regional dip is interrupted (as we hope it will be) for anticlinal folding? Will this velocity gradient continue at the same rate across the fold; if not, how will it be modified? The full answer to this problem is not yet known.

In general, seismograph dips and correlations tend to show too much relief down the regional dip, unless corrections are made. As the lower beds approach geosyclines or basins, the increase in total thickness of section is frequently caused by a predominant thickening of younger material which has a relatively low velocity. Thus, the *average* velocity from the surface down to the objective horizon will decrease down the regional dip. A seismograph line would, therefore, show too much dip whether it is computed from velocity information obtained in a well down-dip or up-dip. The correct answer can be obtained only by using a variable velocity. And even then the answer may be in error, because the manner of variation is usually not known.

Important Factor

As more wells throughout the United States are surveyed for velocity it is becoming clear that this matter of lateral velocity change is more important than we had realized. For example, it is common knowledge that the velocity of salt is much higher than that of the formations in which it is usually extruded. And the occurrence of salt is quite common in many of the oil provinces of the world. Thus we have a perfect trap for the unsuspecting geophysicist. He maps an area on an outstanding reflection below the salt, observes short times over the area of a salt lens, and interprets these short times as meaning structural closure. A hole is drilled, and the well comes in wet and slow. An almost sure cure for this sort of mistake is to map shallow beds (above any possible salt) in addition to beds near the objective horizon. Experience has shown that in most cases where true structural closure exists in the lower beds, some deformation of the upper beds—not necessarily closure—will almost certainly result.

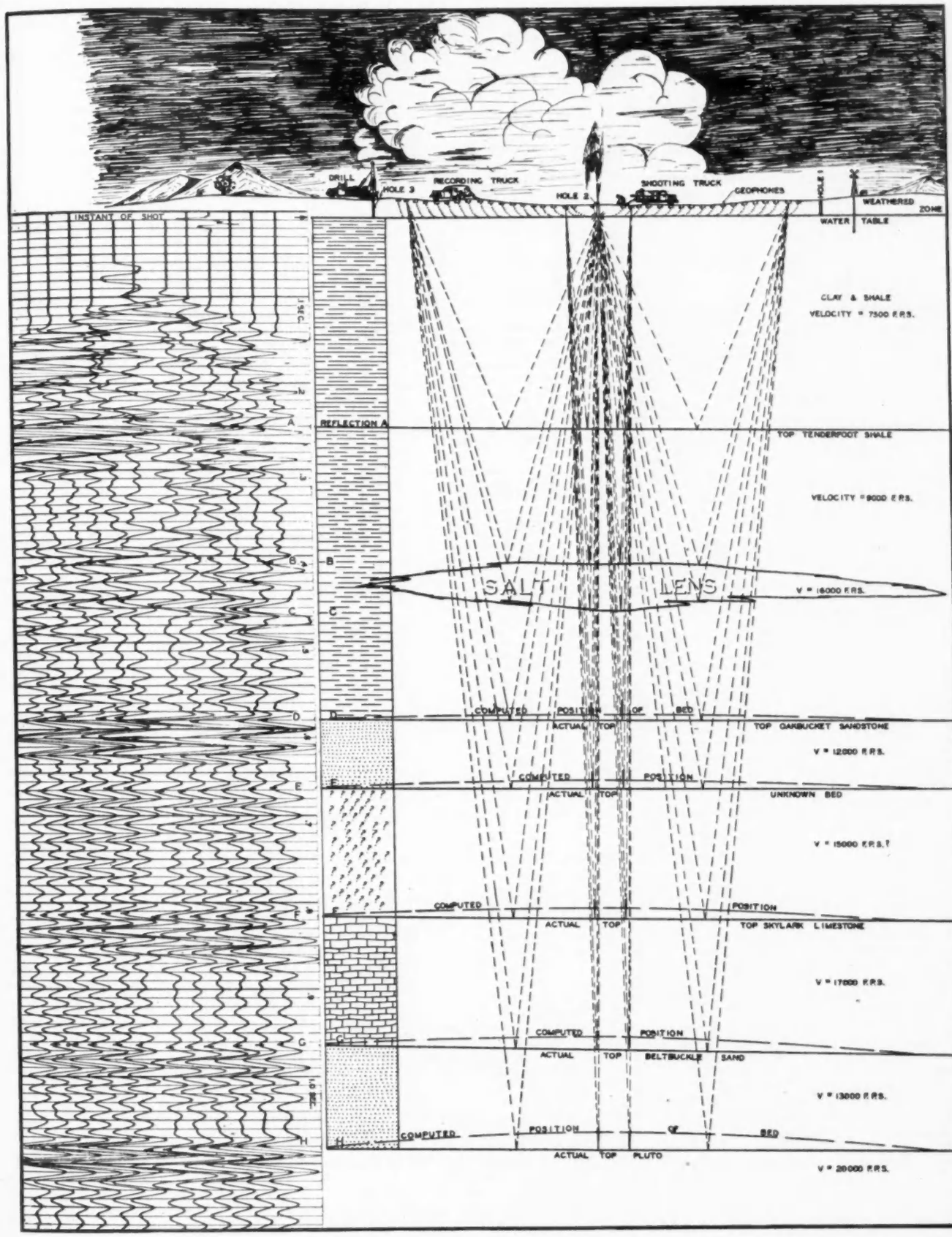


Figure 2. A typical seismograph set-up and record, showing how velocity contrasts cause reflections. A salt lens has been introduced to show how this con cause a mismapping of the lower beds.

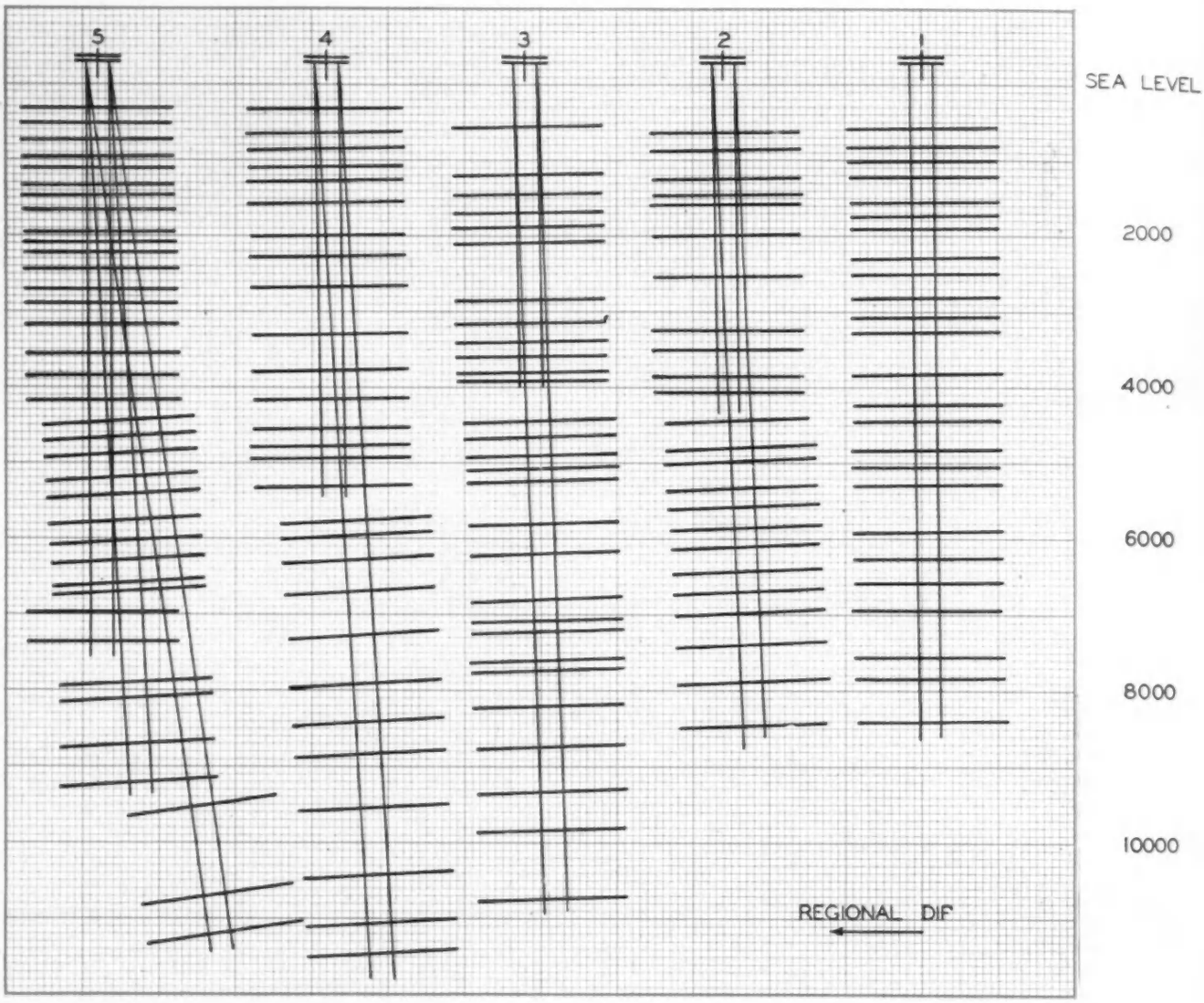


Figure 3. If this line had been extended to the right, an oil field would have been found. Notice the flattening of dip on Station 1.

These shallow maps are also a great help in detecting errors in weathering determination. An attempt has been made in Figure 2 to show how a salt lens can cause mismapping of structure. In this exaggerated case, the Top of the Beltbuckle sand (Reflection G) would be computed more than 300 feet higher than its true position over the apex of the lens. A seismograph map of this area would show closure on the Beltbuckle sand; but notice that a seismograph map on the Top Tenderfoot shale would show no relief—a warning that something was amiss.

The case shown in Figure 2 is exaggerated because the lens has been placed in a shale member which has a velocity much lower than that of salt. The lens can be of any material; a basalt flow, as in Northern California, anhydrite as in Kansas, or salt or sand as in many areas. Mismapping will occur whenever the velocity of the material in which the lens appears is different from that of the lens. The amount of error depends on the difference in the two velocities and the thickness and extent of the lens.

As another example of velocity gradient causing mismapping of structure, consider the numerous cases in the Rocky Mountain area where a variable thickness of tertiary overlies the older members. The velocity in the Tertiary is much lower than that of the beds below it. And when the thickness of Tertiary is variable over a folded area, the seismograph maps of the lower beds will show the wrong amount of closure, or displacement of the axis. Here again, shallow maps are an aid in arriving at the true picture.

Another phase of this velocity problem has been observed in the Rocky Mountain area. In this region it is believed that beds below the Tertiary are generally conformable. If this is so, then the amount of closure shown by the seismograph on an anticline should be about the same whether the Frontier, Chugwater, or Madison is being mapped. But this it not the way the seismograph will show these beds unless special computations are made. If the usual velocity assumptions are made, i.e., that velocity increases with depth and travel time, then the Madison reflection will always show more closure than beds above it, whether this is the actual case or not. The reason for this is that most wells which have been surveyed for velocity show increasing velocity with depth or travel time. We therefore make our computation charts to conform with this generally accepted fact. The trouble is that when we then survey an unknown area and find an anticline; perhaps the upper beds show a small amount of closure. We put our best foot forward and then present a map made from a reflection on a deeper bed. This deeper map will always show more closure, even though the actual *time* interval between the upper and lower reflections is the same on the highs as in the lows. For this reason, some companies use maps which are contoured on time only. If the amount of time closure shown on a lower bed is greater than the time closure on a shallower bed, then the *actual* structural closure on the deeper bed must be greater than that of shallower beds, regardless of velocity considerations. The disadvantage of this system is that geologists find it difficult to visualize time maps in terms of depth and subsurface structure. Geophysicists do, too, but we try to keep it quiet.

Exploration with the seismograph has always been conducted in a rather secret manner. And some of the results are so secret that even we who interpret them are ignorant of their meaning. Take the case of Figure 3, for exam-

ple. This is a cross-section from work done some years ago. Notice that the dips from the last station on the right show a distinct flattening. If this line has been extended, an oil field would have been found. Cases of this sort are too common for comfort. Such omissions can be avoided, of course, by checking every irregularity resulting from a seismograph survey. This is an expensive procedure and can sometimes be minimized by choosing a shooting pattern which consists of closed traverses, laid out along what is thought to be the regional dip and strike. Lines run at oblique angles to the strike and dip cause the maximum amount of distortion of the true cross-sectional picture.

Some oil fields have been missed because insufficient study was given the results. Consider the dip section shown in Figure 4. Notice that the dips from stations 9 and 10 show a distinct flattening of dip, but that the grades on the reflections are very low. (VVP means very, very poor.) The company which ran the line believed that the apparent flattening was in error because geologic evidence indicated that the dips should continue steep toward outcrop. Later work, by another company, showed a structure to be present, and a new oil field was discovered. A producing well is now located near Station 9. If this flattening had been checked by a continuous line, Company A would have found a field several years before Company B got around to it. Since the seismograph tends, in general, to show dips too steep toward outcrop, any flattening may be worth investigating.

It is well known that structural folding, favorable for oil accumulation, frequently occurs in "lines" or "trends." In fact, fields have been found simply by following these trends until closure again develops. Looking back, however, it is surprising how many secondary folds, near the main features, were overlooked at the time of the principal discovery. If a more complete seismograph survey had been made of the areas surrounding the main features, these secondary fields or extensions would have been found much sooner. It is entirely possible that, at this moment, undiscovered production awaits those who carefully survey the areas near known fields.

Recently an attempt was made to analyze seismograph plays which have been drilled in the San Joaquin Valley. The object was to compare the pre-drilling closure, as shown on the seismograph maps from which the decision to drill was made, with the actual productive closure as revealed by the drill. Two lists were made; one of seismograph plays which resulted in discoveries, and another of plays which resulted in dry holes. Over 100 plays were considered. The results may be very interesting to those who are concerned with the seismograph. Gas fields are excluded, because of difficulty in estimating productive closure.

Here are the highlights:

1. The dry holes outnumbered the strikes about six to one. This is for the San Joaquin Valley only, which is definitely an oil province.
2. The pre-drilling closure on the strikes was too conservative in the ratio of two to one on fields discovered prior to 1940. Since then the pre-drilling closure has been much closer to productive closure. There are virtually no cases where the seismograph showed more than productive closure.
3. No fault plays (which had no accompanying structural closure) have been found productive.
4. The list of dry holes shows only a few plays with pre-drilling closure of over 50 feet.
5. In the last few years, most of the plays have been on fault traps, pinch-outs, and nebulous closures. In some of these cases the seismograph was merely a partner in crime—geological ideas influenced the drilling decision as much as seismograph evidence. It is impossible to decide whether such strikes and failures can be attributed to the seismograph.
6. The estimated ultimate gross income from one of these discoveries alone will pay for all the seismograph work ever done in California, plus all dry holes which have been drilled solely on seismograph evidence.

Seismograph exploration in areas of difficult surface access is costly and troublesome, but oil may await those who seek it. Here a crew is drilling a shot hole with casing in the Gulf of Mexico.

Marsh land prospecting is plenty tough. In this picture a crew is burying waterproof instruments in the muck.

A number of interesting conclusions regarding the seismograph may be made from the above facts. In the first place, the seismograph has not been successful in locating productive fault traps in the San Joaquin Valley. One of the reasons is that the areas where fault production is most likely to exist are unsuitable for accurate seismograph work. A few of the seismograph faults have been proved present by drilling, but were barren. Also, the seismograph showed a number of productive closures to be accompanied by faulting; some of these faults have been proved and others disproved by the drill. Some may yet be found present.

Another conclusion is that the frequency of 50 feet of pre-drilling closure in the dry hole list suggests that this is either the limit of accuracy of seismograph work, or that many structures with this amount of closure are found barren. In several cases it is virtually certain (at least to the geophysicists) that the barren structures actually have 25-50 feet of closure. This list also shows that it is relatively safe to drill any seismograph play which shows more than 100 feet of pre-drilling closure.

Exploration Emphasis

Today the emphasis in exploration is on two phases: Detail work in known oil areas, and reconnaissance work in new areas which previously have been thought unattractive for oil accumulation. Since facilities for production and refining are now concentrated in known oil provinces it is important that more oil be found in the present oil producing areas. The seismograph is being called on to find this oil and there are two ways in which this may come about: By exploring the regions of difficult surface access, and by locating stratigraphic and fault traps.

Areas of difficult surface access are a problem to the geophysicist. In populated areas he is harassed by landowners who imagine that their water wells have collapsed as a result of shooting, or home owners who conveniently notice cracks in plaster after shooting, or farmers who allege that their setting turkeys were unproductive following the blasts in other areas, he is beseiged by mosquitoes, encounters tree stumps, marsh lands and diverse crop conditions. In view of these problems, it is not surprising that we tend to work along lines of least resistance in the field. We forget that the other companies who worked this difficult area also found the same roads or trails irresistible, with the result that the structure along these beaten paths (which may show nothing of interest) is now well defined, but that the picture out in the grape vineyards, wheat fields, marsh lands, wooded areas, or rugged topography may not be known, in spite of all the shooting. In the last few years oil has been found simply by shooting some of these difficult areas. Such work is extremely expensive, but may be worth-while in the final accounting.

Today the geologists are asking that the seismograph find stratigraphic traps and fault plays. As stated before, the seismograph has not been too successful in locating fault production. This does not mean that the faults do not show on our records or that they can not be located. It does mean that we who plan the work and interpret the results have not been able to see them.

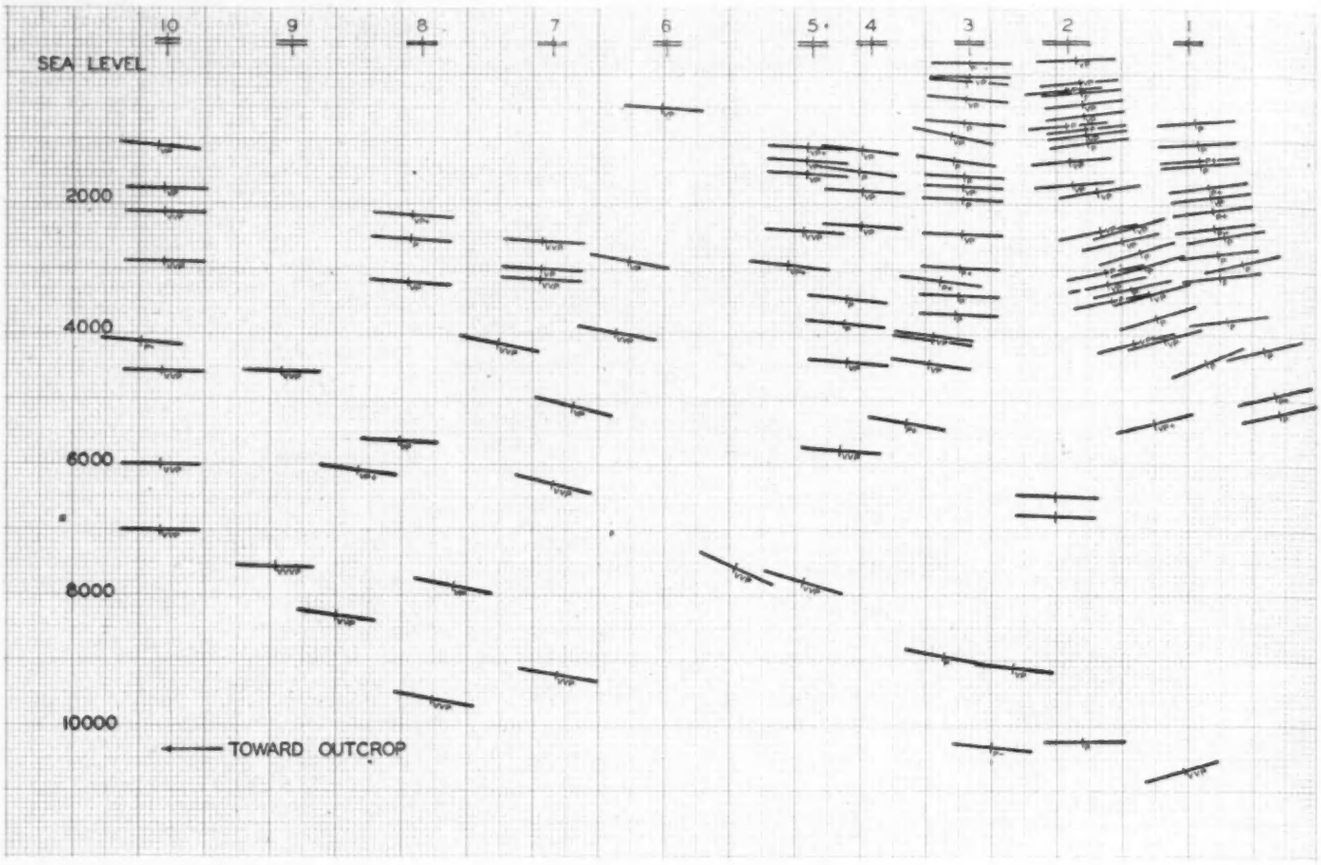


Figure 4. The flattening of dip near Station 9 was the clue to the discovery of an oil field, but this evidence was overlooked at the time the line was run. Producing wells are now located near this point.

For one thing, we need to know more about the appearance of records where faults are known to exist from wells. Post-mortem examination of records shot over areas where faults have been proved by the drill is one way to accomplish this.

Stratigraphic Traps

Location of stratigraphic traps with the seismograph is possible in fact has already been accomplished. Here again we need to know more about the appearance of our records where pinch-outs and overlaps are known to occur. Experimental work on this problem is undoubtedly in progress at the present time. This is a tough problem, and will only be solved with the close coordination of expert geological advice coupled with careful seismograph analysis. Sometimes there has been a friendly "feud" between geologists and geophysicists over the interpretation of sub-surface data. Sometimes the sub-surface structure as revealed by the seismograph has not checked the geologic picture as indicated from the outcrop or well data. The drill has shown that neither interpretation is always correct. If we are to locate stratigraphic traps and fault plays with the seismograph, it is essential that there be a pooling of talent and ideas. The geophysicists cannot locate overlaps unless he knows where and what to look for on the records. The geologist cannot map them correctly unless he has data to supplement well control and outcrop information.

The seismograph came into general use about 1934, and has remained the principal exploration tool since that time. Great improvements have been made in instrumentation, shooting technique, and interpretation. But the question remains, "Is the seismograph still the answer to present exploration problems?" If so, it would seem that improvements in instrumentation and interpretation must be made. After all these years, we still have no directional control feature in our instruments; our records are still a jumble of energy coming from points within an entire hemisphere within the earth. And at this late date we are still ignorant of the meaning of many of the phase and character changes which modify the recorded reflections. And when the problem of pinch-out and overlap determination is considered, we find that our instruments, because of their inertia and electrical characteristics, will not permit definition of beds closer than about 125 feet apart. Also, we sometimes find that our instruments do not give proper definition to shallow reflections, and at other times it is found that the deep reflections are conspicuously absent from our records.

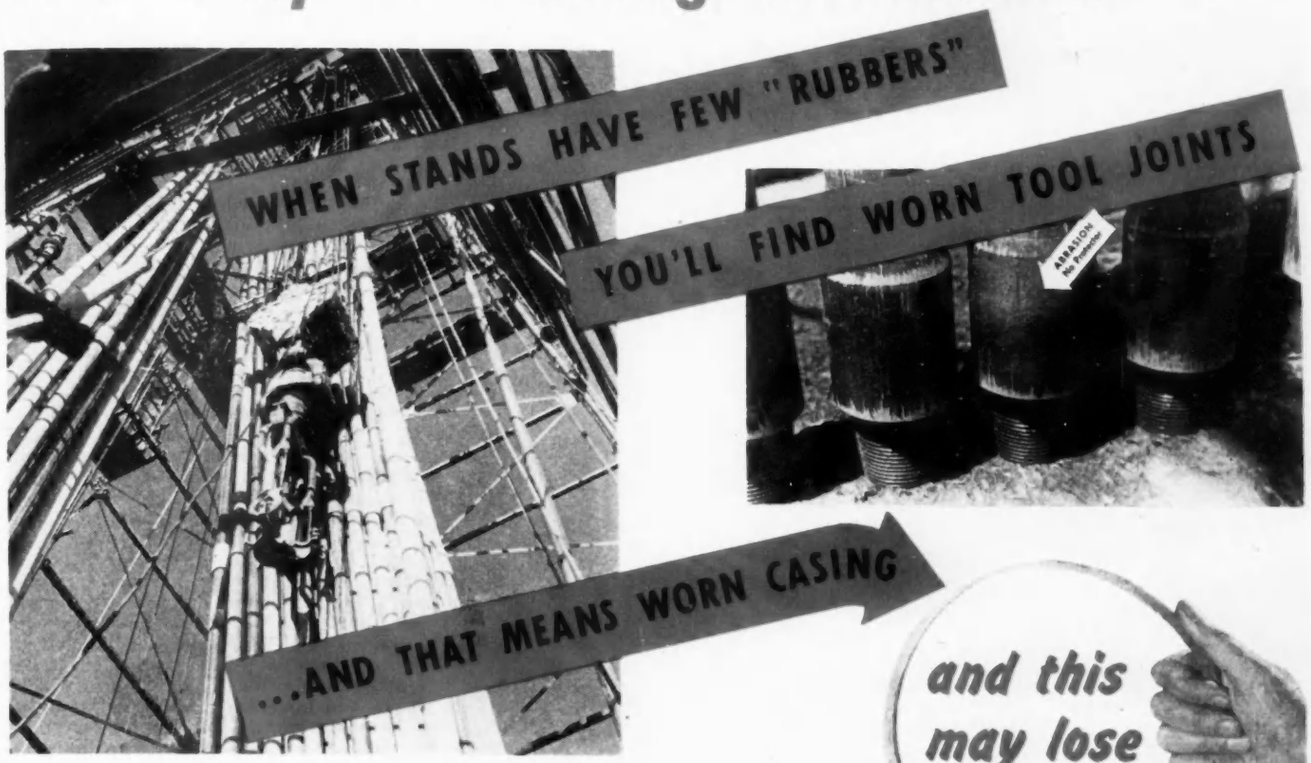
Some of us who work with records believe that interpretation has not kept pace with other improvements in the seismograph. For example, it sometimes happens that a conspicuous void space on our records has a definite geologic meaning; phase and frequency changes may denote important changes in lithology or rock content. Perhaps we are not sufficiently on the look-out for these events. It is a fact that our minds have become accustomed to looking for closed structures; perhaps we have disregarded significant details in our records which may point the way to other types of oil production.

We have all heard how radar, which depends on the reflection of electromagnetic waves (caused by velocity contrasts between that of air and the object), can locate a floating tin can ten miles away, or define the shape of a ship or shore line. This has intensified dissatisfaction with the seismograph (a sound device) which has so many apparent limitations. But it is well to remember that radar operates on the surface, where the seismograph also experiences remarkable velocity effects and results. Present evidence indicates that the maximum penetration of electromagnetic waves in the earth is only a few hundred feet, even with low frequencies. At radar frequency, the depth effect is negligible because the attenuation of electromagnetic waves in the earth increases with frequency. There is little hope that this can be overcome with more powerful transmitters and receivers.

Thus, the burden of the exploration problem still rests on a sound device. This does not mean that other methods are not useful, or that the seismograph in its present form is the best answer. It may mean that the earth still responds best to something with which it is so familiar—earthquakes. But there is reason to believe that our knowledge of this phase of prospecting is not complete and can be improved. Perhaps we can all help in bringing this about.

CASING PROTECTORS • STABILIZERS • PIPE WIPERS • WIRE LINE GUIDES • WIRE LINE WIPERS • KELLY WIPERS
KELLY SUB PROTECTORS • MUD GUNS • MUD GUN NOZZLES • SWIVEL BAIL BUMPERS • DEAD LINE STABILIZERS
TRAVELING BLOCK BUMPERS • TUBING PROTECTORS • SUCKER ROD WIPERS • TUBING WIPERS

The Why of Casing Protectors



CASE HISTORY NO. 7

A well-known Gulf Coast operator set 10,000 feet of 9⅝ inch casing. He decided that he would not use casing protectors, as he said, "I'll only be drilling in the 9⅝" for a short time and the well is straight, so I won't bother with protectors." After drilling a short time, a leak developed in the casing at 2,900 feet, where a heavy flow of water was encountered.

After numerous attempts to shut off the water, the hole was in such bad condition that he could no longer get to bottom, so the hole was abandoned at an expense of many thousands of dollars. A few hundred dollars invested in casing protectors would have saved the well, it was learned when the casing was pulled while abandoning the well.

Call or drop a card to your nearest Patterson-Ballagh office

Moral: Use a Patterson-Ballagh Protector on every joint, and take no risk that can be avoided so easily.

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Flame Hardening Tool Joints In the Field

By R. F. ARNOLDY, Deep Well Pipe Survey Company
and Houston Heat Treating Company

Hardening Head in Position at End of Pipe

Operation As Joint Is Finished

EQUIPMENT has been constructed which flame hardens tool joints in the field on the pipe.* This equipment was developed to meet the need for hardening and strengthening worn tool joints to make them outwear the pipe. It was also needed to harden new or worn unitized drill stem and to handle any type of joint on the pipe. It eliminates delay in drilling operations through removal of joints or transportation of pipe, and operates during drilling operations or between wells without inconveniencing or causing shut down of the rig at any time.

The unit carries everything required with it and in addition to operating during drilling operations will handle the work equally as well where nothing is on location except a rack and the pipe. It will harden 50 joints or 100 ends in eight hours. The complete job on a 250-joint string can be done in five 8-hour shifts.

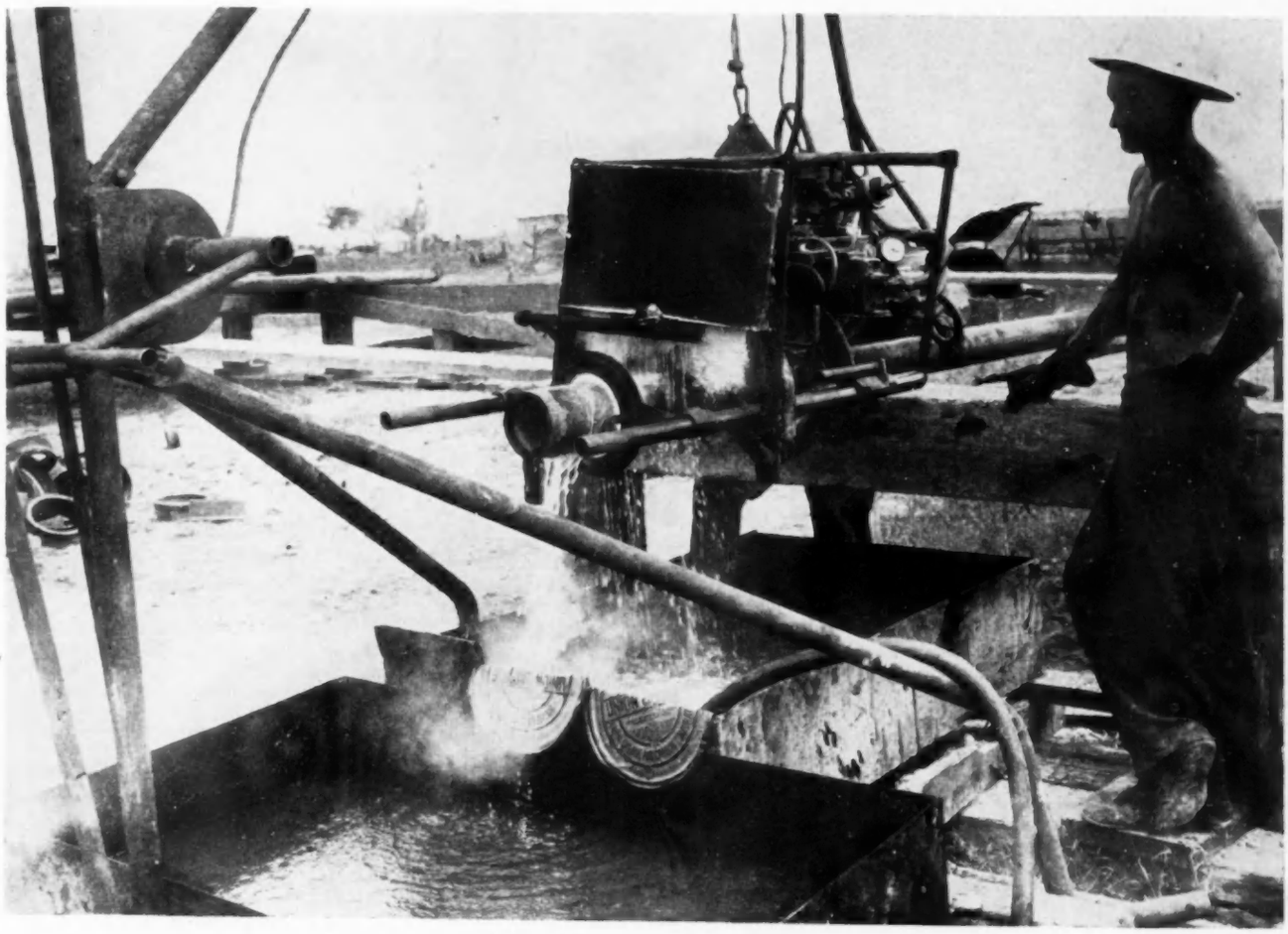
The hardening element consists of an oxy-acetylene heating head with integral water quench which travels over the joint and progressively heats and quenches a surface depth as it travels. Travel is at variable speed to compensate for changes in the section. A variable speed motor with lead screw drive provides this motion. Oxygen and acetylene are provided from a trailer on which is mounted a 300-pound acetylene generator and six standard oxygen bottles manifolded together. Water is supplied from an electrically driven pump. A gasoline driven generator supplies current for this pump and the main drive motor. Tanks on the truck are provided as well as large gasoline driven pump which is used to fill them. The unit is supported on a boom which raises and lowers it off and on the pipe.

In operation, a joint of pipe is rolled to the operating space. The unit is lowered onto the pipe where it sets just behind the tool joint. The head is advanced manually to the end of the joint. The flames are lighted and the travel started. Travel continues with the joint being progressively surface heated and quenched until the far end is reached. The flames are cut off and after a short cooling period the head is returned manually to the start and the unit raised off the pipe. The joint is rolled up on the finish rack and the whole operation repeated. The time for this complete cycle on one joint end is about 5 minutes. The sequence of pipe handling is to start with one rack full and another empty. The work is done between racks. When all of one set of ends are finished the pipe is all on the second rack. The unit is then moved around to the other end and the operation repeated. When the job is finished all the pipe is back on the rack where it started.

When hardening is done during drilling operations where most of the pipe is in the hole, joints of pipe as needed can be laid down while treated joints are picked up, until the whole string is finished.

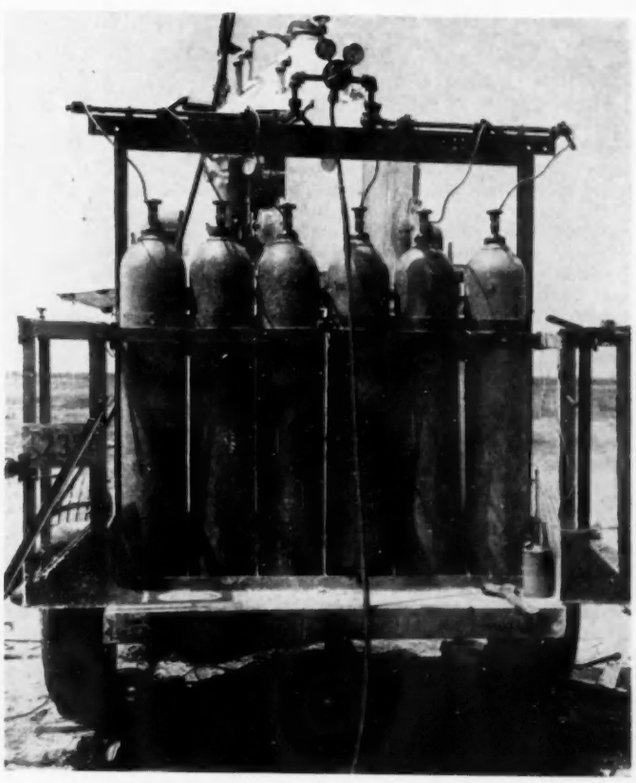
While flame hardening is very advisable on new joints, it is even more advisable on joints which are half or more worn out. With a joint in this condition, much of the metal is gone and the joint therefore weakened. The hard case will add up to 75 percent to the strength of the joint and make it out wear by

* Patents applied for.



Unit in Operation on Unitized Pipe

Finished Box Ends of Tool Joints



Oxygen and Acetylene Supply Trailer

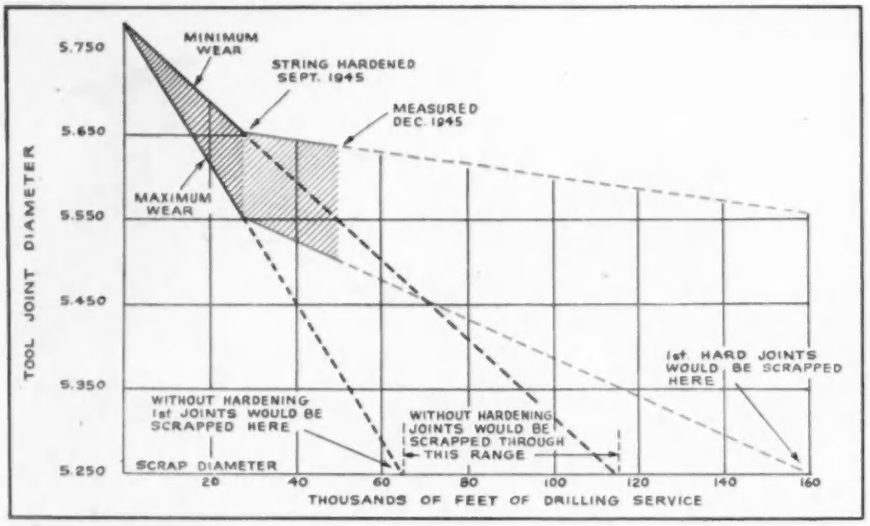


Figure 1. Wear curves before and after flame hardening tool joints. Indicated probable average life of unhardened string was 90,000 feet. Indicated average life of hardened string is 275,000 feet. (Rudell Drilling Company, El Campo, Tex.). Red lines represent maximum and minimum wear of joints after flame hardening. Black curves represent maximum and minimum wear of joints before hardening. In both instances, broken lines project rate of measured wear into future.

three or more times a new joint by a single hardening.

As drilling goes deeper and more and better information is available to the rig operator on what his costs are, it becomes more apparent that good equipment and long lasting equipment is worth very much more than the apparent difference in service life. The tool joint is one item on which much interest has been shown recently. Any operator knows that the removal and installation of new joints to keep a string of pipe in service involve high cost not only for the new joints involved, removal of old ones and installation of new ones, but also for the time lost in service and the inconveniences caused. A great deal of attention has therefore been given to the idea of protecting tool joints from wear.

About five years ago, flame hardening was proposed as an efficient method of protection because it seemed to have many features which were desirable. Some trial joints were hardened for one of the major oil companies who agreed to test them. The initial tests were very successful and numbers under test continually increased. The flame-hardened joint was finally adopted as their standard and to date around 20,000 joints or subs have been hardened for them. In a letter answering an inquiry on the subject, they had the following to say, in part:

> "The results of our experiments during the past five years show that surface hardening for tool joints is highly desirable."

The process consists of heating the surface of the joint to hardening temperature to a depth of 5/32 to 3/16-inch and quenching with water. This surface depth then develops full hardness while the remainder of the joint is unaffected. The entire surface of the joint is hardened, thus giving maximum area to resist wear. The original heat treating of the joint is not changed since the main body is not heated. In addition to greatly increasing the strength, the case gives about three times fatigue resistance and no decrease in shock resistance.

The principal objection to the use of the flame hardened tool joint has been tonging on the hardened surface. It was felt that the tongs would slip and that the teeth would break if they hit the surface with an impact. To a certain extent this has been true and users report that more tong dies are used. However, they were using a die designed to grip soft material. A die has been designed which under tests has been found to grip the hard joint and last longer than the ordinary die does when used on soft joints. This die also works as well on soft joints.

It has been found not advisable to try to harden deeper than 3/16-inch. In service about twice this amount of metal is worn off one side before the joint is scrapped. Consequently, a joint can be hardened twice during its service life and still use the full amount of hardened metal. While this case is wearing, the wear ratio is about four to one so that with a single hardening, the joint will show an overall life ratio of about two to one. The test record illustrated in Figure 1 shows the relative wear on one string of joints.

In service the flame hardened joint remains straight from bottom of box to top of pin, since the whole surface of box and pin are resisting wear equally. With another type of protection, a few inches on the box only are protected. The rate of wear begins near the protected portion and increases over the length of the box and up to the top of the pin, giving a tapered effect which resembles a beer bottle. (See Figure 2.)

The elevator shoulder remains uniform in size and smooth. There is no metal removed or added to the joint and the end of the hardened area is a straight line around the joint. This assures a solid grip on the elevators with no cocking or wedging.

No washing takes place on the flame hardened case and there is no spalling out of hard metal at any time during the life of the joint. Because the smooth, even surface is maintained there is no breakage of tong dies from tonging on uneven or spalled out surfaces.

Because of the smooth surface and since no abrasive metal is added, the joint does not cut casing or other parts with which it may come in contact.

Inspection

Hardness tests are made with portable hardness testing equipment. Hardness of 55-58 Rockwell C has been adopted as standard for the treatment. All tool joint steels now used will develop this hardness.

A device has been developed which tests the case depth of the hardened joint. The 5/32-3/16-inch case has been adopted as standard for case depth.

Service Record, Rudell Drilling Company, El Campo, Tex.

Type Joints: 4½-inch Weld F. H.
Number of Joints Measured: 260
Average Size New . . . . . 5.775"
Average Size at 28,000 feet (when hardened) . . . . . 5.605"
Average Size at 48,000 feet . 5.571"

Wear Per 1000 Feet of Drilling:
Before Hardening . . . . . .0060"
After Hardening . . . . . .0017"

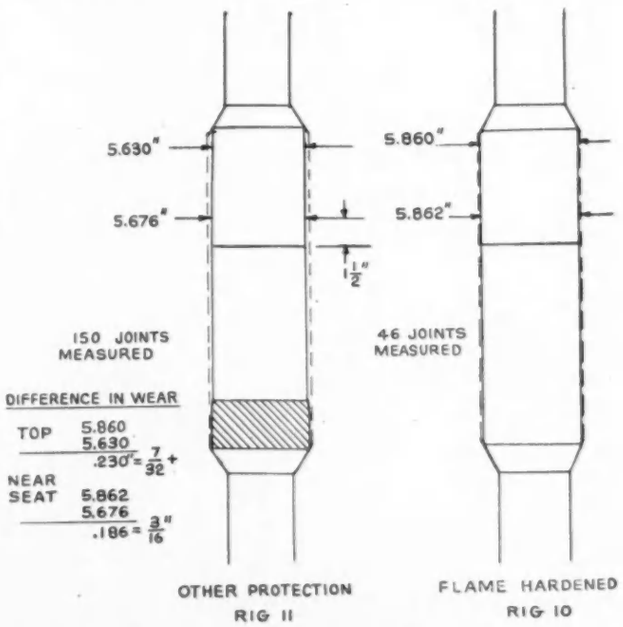
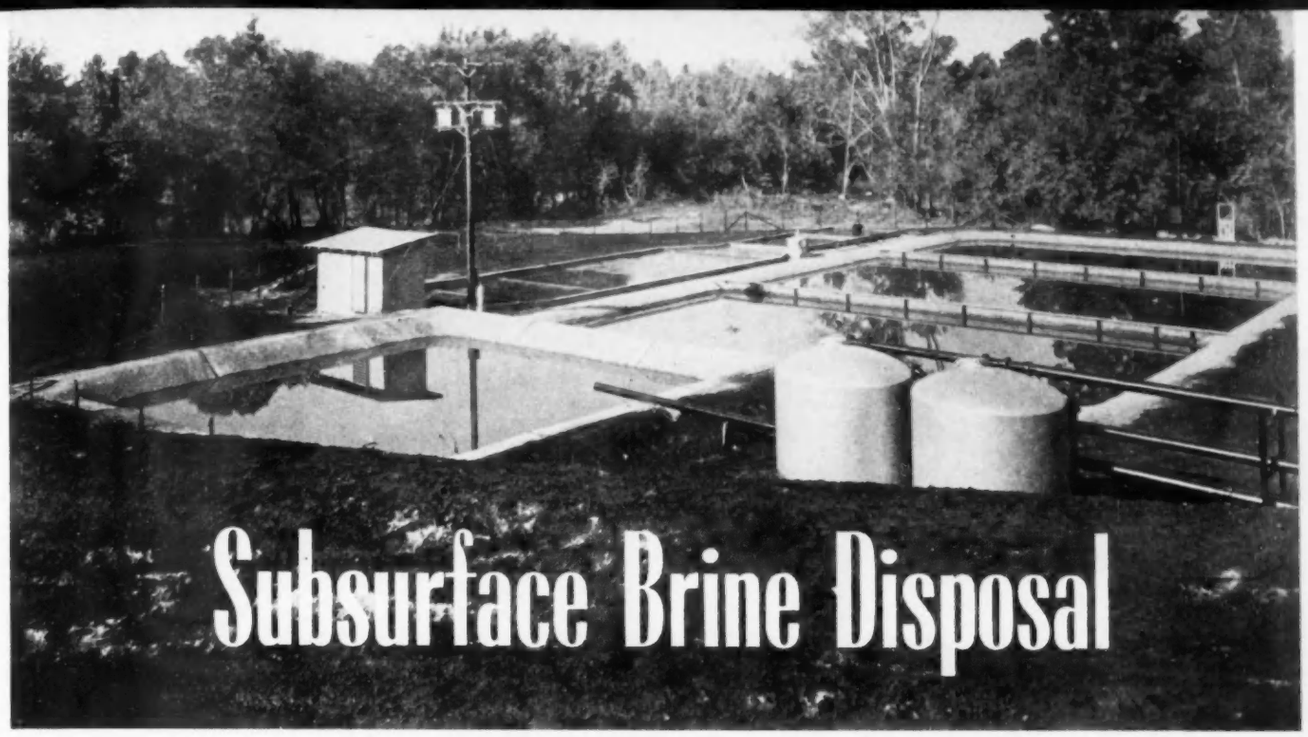


Figure 2. Rate of wear on drill pipe of Tom Graham Drilling Company in the Willamar field, Texas. Both strings had drilled approximately 50,000 feet when protection was applied to one of the strings. Both strings have drilled approximately 20,000 feet since.



Subsurface Brine Disposal

John R. Suman salt water disposal plant, Perida Survey, Upshur County, Tex. Throughput is 7500 barrels of salt water per day.

Deep Disposal of Oil Brines Will Do Much to Protect Fresh Water and Soil

By OGDEN S. JONES
Geologist, Kansas State Board of Health

SHALLOW disposal of waste brine from producing oil and gas wells—by shallow we refer to using a horizon less than 1000 feet in depth—has not under all conditions proved satisfactory. A shallow well may take considerable input water for a time but later it often becomes necessary to use increasing pressure which adds to the disposal costs. When a deep-seated bed is known to be available, it is less costly in the long run to make use of the deeper formation. Several areas in Kansas are using the Arbuckle (Silicious lime) for disposal purposes. This horizon is often 4500 feet below the surface and fortunately it takes immense volumes of water by gravity with no injection pressures involved. It is readily understood that a column of water 4500 feet in depth exerts considerable pressure (approximately 2000 pounds per square inch) on the face of the receiving formation.

As most of the produced brines are highly corrosive it has been found necessary to use non-corrosive pipe and tubing to insure long time operation. The gathering lines from the participating wells are likewise made of a non-corrosive material.

Brine Treatment

Sometimes instead of returning a raw brine back to the formation it is necessary to treat the brine so as to minimize the clogging effect it may have on the sand face. A further reference to this treatment may be found in two papers prepared under the cooperative agreement between the Kansas State Board of Health and the U. S. Bureau of Mines, "Report of Investigations Nos. 3334 and 3394." Some companies argue that instead of setting up elaborate treating equipment it is cheaper to periodically clean out the disposal well. More will be known on this question as time goes on. It is known, however, that once the original chemical balance of the brine is modified, a different water goes back into the formation than was pumped out of it. Quoting from Bureau of Mines R.I. No. 3334, "Proposed Method of Brine Conditioning":

"The proposed method of oil-field brine conditioning for disposal into subsurface formations involves adequate separation of oil and brine, settling of some of the suspended matter, pressure-filtering in a closed system, keeping the brine under pressure to minimize the precipitation of the carbonates, and use of corrosion-resistant pipe to carry the brine from the filter to the disposal stratum thus eliminating further formation of iron sulphide. This method does not stabilize the brine as to its carbonate constituents, but it is believed that if, after adequate separation and filtration, the brine is handled properly and its contact with iron or steel is minimized, the life of the disposal well will be extended greatly."

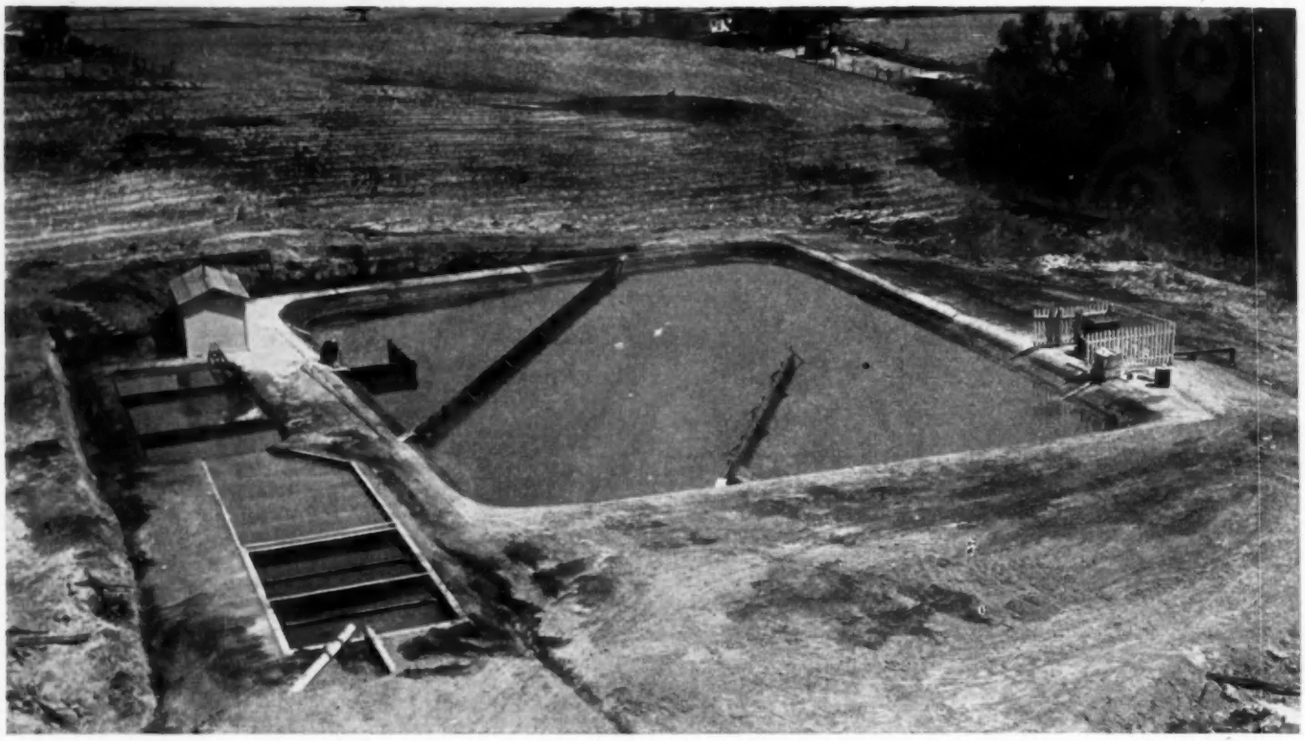
Disposal of oil field brines into subsurface formations and in particular into deep seated horizons seems at this time to be the most logical solution to the disposal problem. Some way of building up a seal or barrier at the oil-water contact may be perfected which conceivably could reduce the amount of water lifted with the oil. In the future some chemist may find a way to extract the chlorides from the brine in an economical and simple manner, but such a process has not yet been perfected for use in connection with brine disposal. Therefore, for the time being we must be content to dispose of the brine lifted with the oil so that no harmful results occur on account of inadequate disposal.

Texas, recognizing the importance of underground disposal, has made it possible through its railroad commission to increase the oil allowable in the East Texas field one barrel for each 50 barrels of brine returned to subformation up to an increase in allowable of five barrels. This incentive has done much to encourage subsurface disposal.

Dr. E. A. Stephenson, head of petroleum engineering at the University of Kansas, has for some time been working on a study and actual field results have been achieved in which oil is forced back into a water-logged oil sand with the result that oil production is often increased and water production sharply limited. The present results are most encouraging in this new method of water control.

Brine Disposal Associations

In the early development of underground disposal most of the wells were of the shallow type, ranging from 400 to 1000 feet. These wells cost but slightly more to drill than a fresh water well of corresponding depth. As the development progressed it was apparent that the shallow well not only had a relatively short life but its volume of intake was sharply limited. The deep disposal wells contacting beds some 4000 feet below the surface were receiving favorable comment as to the immense quantities of water they were capable of taking. Another point was that the deep well had but seldom to restort to injection pressure. Some of these last mentioned wells show a potential capac-



This salt water collection pit in Gregg County, Tex., has a 10,000-barrel capacity. Note plowed field in background.

ity of 10,000 to 20,000 barrels of brine intake per day under actual test.

A small operator or even a major company would not be economically justified in the expenditure necessary to install a deep well if only one or two oil wells were the development limit of a particular lease or field. Therefore, it became evident that due to the capacity of water intake shown by the deep well, it would be possible for several operators to use the same well. Once this was decided upon it was a simple matter to prorate the cost on a per well basis. In other words a firm with only two wells to put in the association would pay only ½ as much as the company having four wells. The disposal associations also came into being because of a sincere desire of many companies to protect the fresh water reserves by the use of deep disposal. If they could not afford individual wells, they were willing to join an association of several operators and use one community disposal well.

For a time it was thought that it would be possible to meter the produced water from each oil well and charge so much per barrel. This scheme not only involved an elaborate meter outlay but was costly in the complexity of the bookkeeping it necessitated. The less involved procedure was, therefore, to charge so much per well irrespective of the amount of water handled.

The need of a disposal association has several times been recognized by this department and a meeting of interested operators was arranged at a convenient place near the field under observation. The meeting, after the purpose of the gathering had been explained, was turned over to the operators for discussion. The operators appoint their own chairman and from then on this department acts only in an advisory capacity or perhaps does some of the preliminary engineering work. The operators as a rule select one of their group to be the operating company. This company next ascertains the cost of the project and the unit cost on a per well basis. Then the legal staff of the operating company draws up what is called the "articles of agreement," which is signed by all participating companies. The entire project is a non-profit organization.

Once the "articles of agreement" are signed the operating company lays out the disposal system, ditching, gathering lines, disposal well, casing program, brine treatment, settling tanks, etc. Attention is called to an article prepared by H. H. Elliston and W. B. Davis, engineers with Sinclair Prairie Oil Company of Tulsa. The title of the paper is "A Method of Handling Salt Water Disposal Including Water Treatment." It was presented at the spring meeting of the Mid-Continent District API Division of Production, May, 1944. Elliston has perhaps had more experience with disposal wells and disposal well associations than anyone in the Mid-Continent field, and this paper ably describes the modus operandi of brine disposal associations. We recommend it to all of those interested in a breakdown of many features embraced in a modern brine association.

As many as 60 wells often discharge the produced brine into one deep disposal well. Several such disposal wells can conceivably take care of the produced brine in an entire field. If such a field is served by one disposal system, it is quite within expectations to have disposal costs of considerably less than 1 cent per barrel. We feel that the disposal of brine into deep seated formations administered by a disposal association is the logical and most economical answer to the brine disposal problem.

The Kansas law allowing the use of water as the repressuring media in the secondary recovery of oil has not only given an added impetus to the operator to increase the ultimate oil yield but affords a legitimate use of brine for that purpose. Water flood, for considerable time practiced successfully in the Bradford area in Pennsylvania, has during the last few years come into Southeast Kansas and portions of Oklahoma. Water flood is the practice of injecting water into the producing formation for the purpose of augmenting the natural water drive and which as a rule results in increased oil production.

Fresh water being at a premium in the principal water flood areas in the Mid-Continent field, it is only natural for the operators to turn to brine as the flooding fluid. Some operators are convinced that brine is much more effective in removing oil from the sand than fresh water. In any event, by the increased use of salt water in flooding operations the problem of brine disposal is to that extent solved. In flooding it is the practice to recycle the water raised with the oil, thereby not only conserving the water for reuse, but keeping it out of the drainage. Successful water flood depends upon many factors, such as an accurate knowledge of sand conditions, porosity, permeability, subsurface geology, well patterns, etc. Pressures often required for injection are showing that improper plugging of abandoned wells was the rule, not the exception, in the older fields. Old wells long abandoned frequently come to life as artesian salt water wells as the pressure in the producing formation increases during flooding. The old inadequately plugged wells are now of necessity being replugged in such a manner as to hold the anticipated pressure increase in the sand body.

Water flood using brine as the flooding media in the secondary recovery of oil has reached the state in the old shallow producing areas where much of the pollutional hazard to the fresh wa-

ter supply is removed. Salt water finally has been recognized as a form of reservoir energy and by its conservation and reuse in the producing zone, formation pressure is maintained if not actually augmented. Successful flooding necessitates a water front moving at a uniform rate up dip in the sand body. The faster the movement without channeling is the accepted practice for maximum oil recovery. No water flood project should be attempted without painstaking engineering back of the actual operation.

As a rule it is cheaper to use water flood as a pressure maintenance measure than to augment subnormal pressures up to or above the original field pressure.

Stripper Well Survey

It is of more than passing interest to note that in a national survey of stripper wells conducted by the Research and Coordinating Committee of the Interstate Oil Compact Commission, and the National Stripper Well Association, in 1941, the 295,227 stripper wells in the United States produced 207,930,958 barrels of oil. According to E. G. Dahlgren, technical secretary to the research committee of the Commission, these stripper wells have a recoverable reserve by primary methods of 1,304,613,300 barrels. Additional reserves recoverable by secondary recovery methods amount to 2,781,087,932 barrels for a total reserve of 4,085,701,232 barrels possible from stripper wells alone.

These statistics are given to show the enormous reserves left open for secondary recovery methods. Likewise it is pointed out that stripper well abandonment before secondary recovery is used results in the loss of valuable potential reserves.

The operator in the early days of water flooding paid but slight attention to the injection water, but at the present time a careful examination of the water is made before operations start. The two primary factors are the source and quality of the water and secondly the quality. These must be ascertained before a secondary recovery project is initiated. For instance, if the sand to be flooded is 20 feet thick with a porosity of 15 percent the void space amounts to 23,100 barrels per acre. Therefore, knowing the percentage of void space yet filled with oil, it is but a step to ascertain the amount of water needed to complete the flood.

This department has for some time worked with the small operators in an endeavor to show the value of secondary recovery. This is done for two reasons, first to increase oil recovery and secondly to make use of salt water as a form of reservoir energy instead of looking upon it as a waste product. Salt water is an asset underground, but it becomes a liability upon reaching the surface.

In order to obtain additional protection to the fresh water in oil areas, several states have passed legislation making it possible to use underground horizons for brine disposal purposes. The oil operator has been very cooperative in this general program because he realizes it is quite logical to put this water back into the formation from which it originated, or like formations. The modern operator realizes that salt water is a tremendous and cheap form of reservoir energy and that it is unwise to dissipate that energy as a waste product.

R. E. Hardwicke 1 salt water disposal well, Baty Survey, Gregg County, Tex. Two 96-inch by five-foot steel shell, rapid sand filters, capacity 5000 barrels per day each are shown in the foreground. The well averaged 7781 barrels per day in November with 30-inch vacuum on well head.

Landowners Should Welcome Underground Brine Disposal. The landowner knows it is impossible to store water in a sandy, porous soil because it will move or infiltrate downward until it reaches an impervious stratum and then travel down dip. Ground water as it migrates from point to point does no harm provided it is a fresh water but if it is mineralized or salt water it will pollute fresh water on contact. No farmer wants to have his valuable fresh water contaminated, nor does the oil operator want this to happen due to careless lease operations. Some landowners, perhaps not understanding the gravity of the situation and not being fully acquainted with the primary function of the disposal well, have inadvertently hampered the setting up of an adequate brine disposal system.

Because disposal systems are quite expensive it is often desirable for several operators to go in together and form what is known as a disposal association. When it is realized that one properly constructed disposal well is often capable of taking the produced water from as high as 50 oil wells it is an unjust demand on the oil industry to expect a disposal well on every farm or every lease. This department sponsored a bill which was passed by the 1941 legislature as a water conservation measure for the sole purpose of making it easier for disposal systems to be set up. As long as the oil industry is willing to cooperate on this problem of brine disposal and fresh water protection it would seem that the landowner should do everything in his power to further such a program.

A few landowners have objected to brine from farms other than their own being put into a disposal well located on their farm. This department feels that such action is unwarranted and that the landowner himself will see that such an attitude could easily defeat a conservation plan to the detriment of the landowner and his neighbors. As all disposal gathering lines are laid well below plow depth and are non-corrosive material, they should cause no inconvenience in farm operation. If through unwise advice the landowner hampers this development he stands a good chance of being instrumental in having his fresh water placed in a hazardous position.

The farmer can do his part in the conservation of natural resources by doing everything in his power to welcome all deep brine disposal projects. He will not only be doing his part in the protection of fresh water supplies but will allow the brine which is one form of reservoir energy to be conserved. In some areas the returning of the brine to the producing horizon will prolong the productivity of the field and if the farmer is a royalty owner he will receive payments over a longer period.

Fresh water and fertile soils are the farmers' most valuable resources and deep disposal of oil brines will do much in protecting them.

Any department interested in water conservation should insist that the landowner get back of this salt water disposal program by being all out for it, and not to penalize the industry with unjust demands as long as the oil operator is trying to protect for all time the farms' water supply by the use of deep disposal of the brine produced with the oil.

Rack on Service Truck Side Accommodates Fuel and Lube Transfer Pump

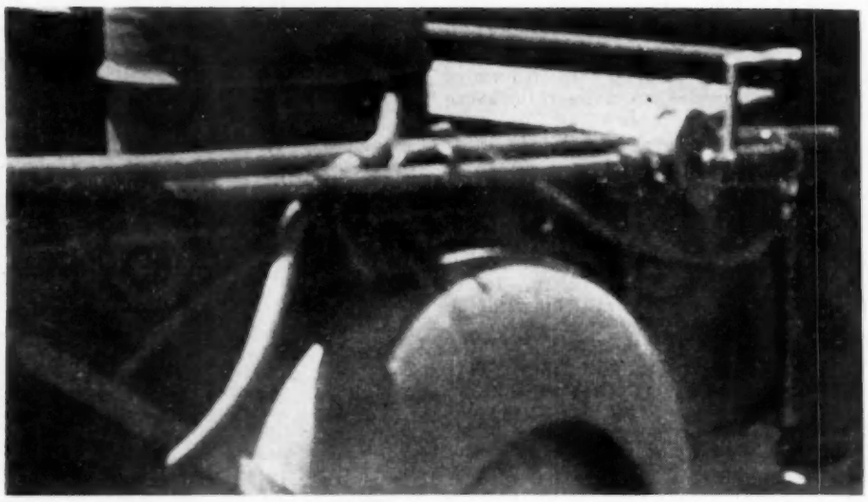
HANDLING FLUIDS

On larger leases, where there are a number of tractors, trucks and stationary engines to be serviced frequently, it is both quicker and more economical to plan out a route for the service truck so that the necessary fuel and oil may be transferred from the drums on the truck directly into the power units as required by various tanks supplied.

One lease superintendent, following usual practice in effecting the transfer from drum to engine tank with a rotary pump which is inserted into the larger opening in the head of the drum, does not permit the pump unit to stand in the drum between units to be serviced, but instead has provided a rack on the side of the truck where the pump is carried.

Transporting the pump in this manner protects it from possible damage while driving along wooded roads, eliminates the oil drip from the truck floor, and prevents damage which, sooner or later, is sustained if the pump be carried in the bed of the truck and exposed to the shifting drums.

The rack illustrated consists simply of a pair of hooks, in which the pump is laid. A more elaborate carrier utilizes a short section of 2-inch pipe, into which the pump body is inserted. This latter method prevents the depositing of dirt and dust on the outside of the barrel, to be washed off and thus to contaminate the contents of the next drum into which it is thrust.



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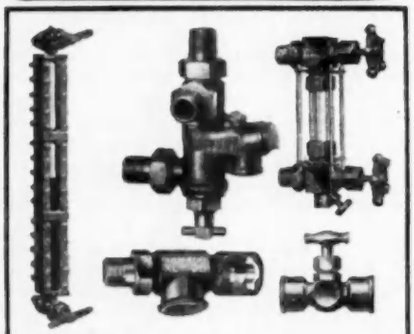

Penberthy liquid level gages of various types—injectors—ejectors—all so widely used throughout the oil industry because they have always been dependable under the most severe service conditions.

All are of rugged construction and made by an organization with 57 years experience in the manufacture of quality products.

See Pages 2450 to 2455, Composite Catalog

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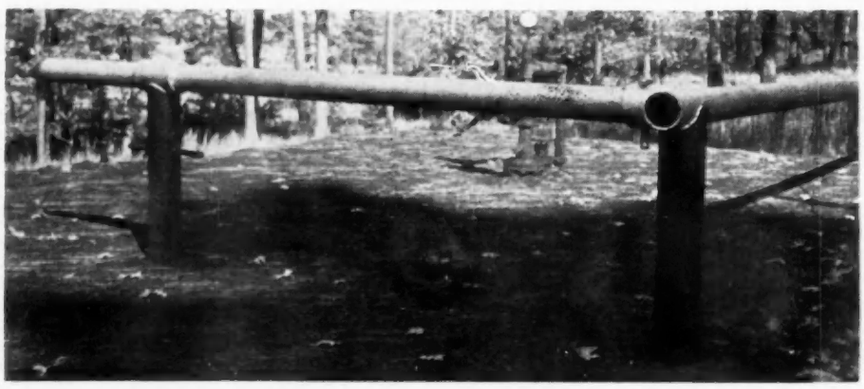
Pinned Railing Facilitates Clearing for Servicing

LEASE PROTECTION

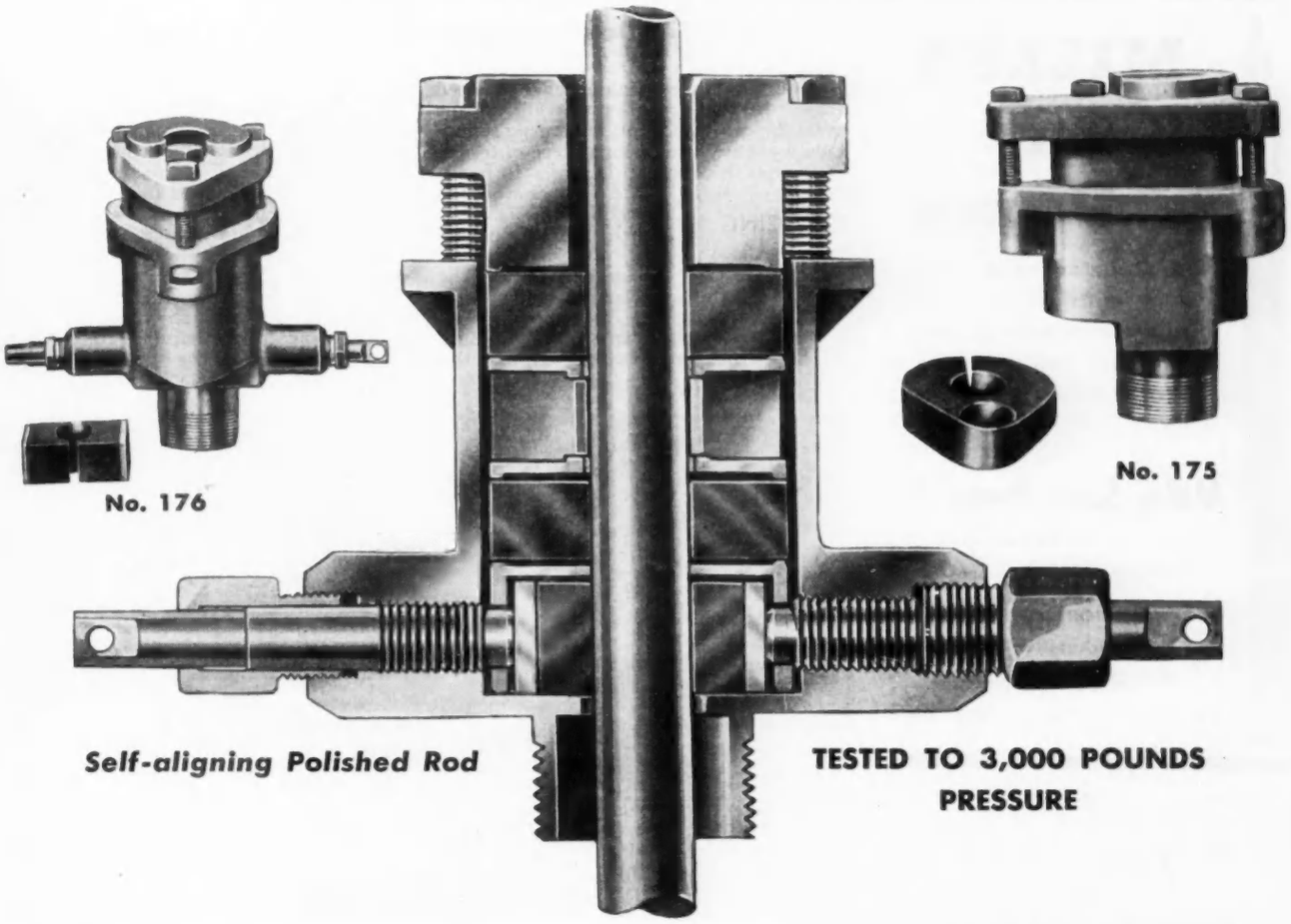
On leases near public highways, it is necessary to protect the Christmas tree from damage by installing a guard around the well head. One company constructs this guard from heavy scrap pipe, installed in such a way as to provide ready access to the well.

The guard is placed on two sides of the well nearest the highway, one side being constructed of four-inch pipe set in concrete with three-inch pipe as railing on top. The other side, set at right angles to the first, contains a removable three-inch railing with a four-inch riser set in concrete, this latter carrying a collar near ground level. To the top of this riser, a four-inch nipple is saddled so as to make a loop for the insertion of the three-inch railing. The top of the stationary post also has a four-inch male connection welded at right angles so as to receive the end of the three-inch railing. Matched holes are burned in the ends of these pieces so that a pin and lock may be inserted to prevent the railing from being tampered with.

When work is to be done on the well, the three-inch railing is slipped out on one side and the four-inch post is removed from the collar by means of handles which have been welded at a convenient height. These two pieces are laid aside until the workover job has been completed, then are replaced so as to provide well-head protection.



RECEIVES LUBRICATION DIRECT FROM THE PUMPING WELL



"RATIGAN" No. 175 & No. 176 STUFFING BOXES

These are the only self-oiling stuffing boxes on the market, receiving their lubrication directly from the pumping well. They function identically the same, except that the No. 175 has no shut-off feature. The Ratigan No. 176 Stuffing Box can be shut off while repacking the box, by tightening the screws evenly in the shutoff; but caution must be exercised, as the screws will have to be loosened before the well starts to pump. If not, the fluid will not get up into the stuffing box.

The inside of the box is removable, so that the device has two chambers filled with fluid from the well. This method of self-lubrication, without depending on the human element, is an excellent feature in itself.

The hole in the rubber is made for the size of the polished rod; while the hole in the metal parts of the body are larger; a design that makes the rod self-aligning.

When the screws are not tight against the rubber, the stuffing box is free to function properly. For a further check on the fluid coming up through the bypass, the pumper may loosen the plug in the cap a little, and if the bypass is free the oil will flow immediately. If the oil does not come through, the screws in the shutoff are too tight.

When repacking Ratigan Stuffing Boxes, both rubbers must be removed. Instructions for installing are supplied to oil companies and supply stores on request, and are attached to all foreign shipments. When ordering, specify size and type of thread and size of polished rod.

All Ratigan products are illustrated and described on pages 2507 to 2526 of the 1943-44 Composite Catalog.

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See Composite Catalog Page 1907

An A.A.P.G. Publication!

TECTONIC MAP
of the
UNITED STATES
1944

Prepared under the Direction of the Committee on Tectonics, Division of Geology and Geography, National Research Council.
Chester R. Longwell, Chairman, Philip B. King, Vice-Chairman.
Charles H. Behre, Walter H. Bucher, Eugene Callaghan, D. F. Hewett, G. Marshall Kay, Eleanora B. Knopf, A. I. Levorsen, T. S. Lovering, George R. Mansfield, Watson H. Monroe, J. T. Pardee, Ralph D. Reed, George W. Stose, W. T. Thom, Jr., A. C. Waters, Eldred D. Wilson, A. O. Woodford.

A NEW GEOLOGIC MAP OF THE UNITED STATES AND ADJACENT PARTS OF CANADA AND MEXICO

Geologic structure, as evidenced and interpreted by a combination of outcropping areas, bedrock, surface disturbance, and subsurface deformation, is indicated by colors, symbols, contours, and descriptive explanation. Igneous, metamorphic, and selected areas of sedimentary rock are mapped. Salt domes, crypto-Volcanic disturbances, and submarine contours are shown. The base map shows state boundaries, rivers, a pattern of cities, and 1-degree lines of latitude and longitude.
The scale is 1:2,500,000, or 1 inch equals 40 miles. Printed in 7 colors on 2 sheets, each about 40 x 50 inches. Full map size is about 80 x 50 inches.

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The American Association of Petroleum Geologists
Box 979, Tulsa 1, Oklahoma, U.S.A.

Anchored Tie-Down Eliminates Winch Truck Shifts

Where pulling machines are spotted some distance from the well, means must be provided for anchoring them. One company uses a long piece of 6-inch casing set in concrete. In order to facilitate attaching the anchor line, a two-inch nipple is placed in holes which have been burned near the top of the 6-inch nipple. The anchor line is fastened to an eye welded to the frame of the pulling machine truck and wrapped around the bumper when the pulling machine is on the road. When the truck has been spotted, it is a simple matter to unwrap the anchor line and throw the loops over the projecting cleats.

SERVICING SAFETY

This operator makes use of other devices which are likewise shown. The scrubber tank and regulator for the gas connection to the engine is mounted conveniently on the front of the truck. Also the exhaust from the motor is connected to a two-inch pipe which is placed beneath the bumper and the ells turned away from the well.

Quick Coupling on Vent Speeds Fire Fighting

Located according to fire regulations at 70 to 100 feet away from the tank, the vent is mounted on a sturdy A-frame in which numerous cross pieces are used to form the access ladder for adjusting or servicing the vent valve and strainer.

FIRE FIGHTING

The outlet of the vent fitting is turned downward and equipped with half of a quick-acting snap union, so that connection can rapidly be effected to a truck or other outside source of fire-fighting mixture to permit the solution to be forced through the vent line and into the tank to smother fire at that point.

The supporting A-frame, set in concrete to provide maximum stability, is painted with aluminum to make it readily visible. The horizontal vent line is protected against accidental damage from trucks or elevated shear legs by two pipe posts, planted in the space between tank and A-frame so as to prevent the passage of vehicles — with consequent hazard to the vent equipment.

Located outside the tank fire wall, the A-frame is far enough away from the tank so that the ladder may be climbed for attaching a hose, or the union may be made from the lee side of the fire-fighting truck, without exposing the operator to excessive heat.

Natural Gasoline Shows Big Gain During November

Daily average production of natural gasoline and allied products increased sharply in November, from 12,230,000 gallons in October to 12,927,000 gallons, it was reported last week by the Bureau of Mines. Increases were registered in most districts, with the largest gains in the Texas Panhandle, Louisiana, California and Oklahoma.

November production of light products included 199,081,000 natural gasoline against 185,444,000 gallons in October; 26,507,000 natural gasoline mixture against 26,636,000 gallons; 30,109,000 raw condensate against 33,171,000 gallons; 29,869,000 commercial butane-propane mixture against 26,386,000 gallons; 26,595,000 normal butane against 31,883,000 gallons; 24,335,000 propane against 24,704,000 gallons; 10,941,000 other mixtures against 12,011,000 gallons; 13,658,000 iso-butane against 11,668,000 gallons; 3,743,000 iso-pentane against 2,448,000 gallons; 19,768,000 finished gasoline and naphtha against 22,431,000 gallons, and 3,219,000 other products against 2,361,000 gallons.

Total stocks increased by 15,358,000 gallons during the month, with stocks at refineries rising from 66,402,000 to 72,870,000 gallons and those at plants and terminals from 99,878,000 to 108,768,000 gallons.

Big Gain Shown in Federal Taxes Taken on Petroleum

Treasury revenue from federal taxes on petroleum exceeded $537,000,000 last year, an increase of more than 25 percent over 1944, the Internal Revenue Bureau has disclosed.

Although collections decreased in December for the second successive month, they maintained a relatively high level with gasoline collections $28,770, 170 compared with $38,887,066 in November, lubricating oil receipts $4,669,026 compared with $6,020,001, and pipe line transportation revenue $1,204,877 compared with $1,281,887.

Total receipts for the year included $424,417,162 from gasoline, against $328,597,299 in 1944; $96,997,414 from lubricating oil, against $66,282,554, and $15,679,682 from pipe-line transportation, against $16,348,217.

Mississippi Conservation Rules Adopted by Board

Finally adopted by the Mississippi Oil and Gas Board as conservation rules and regulations was the set presented in December (THE OIL WEEKLY, January 7, page 13) by the industry and provides:

When as many as three oil or gas wells are completed in the same reservoir, a hearing shall be held to show why natural gas, including casinghead, cannot be utilized for introduction into oil or gas bearing horizons in order to maintain or increase pressure; as gas lift where such gas is not used in excess of 2000 cubic feet per barrel of oil produced; or efficient chemical manufacture or light, fuel, heat or other like purposes.

Exception is made where gas does not exceed twice the original dissolved gas-oil ratio of the pool.

Depletion Allowance by Landowners Is Upheld by Supreme Court Decision

Conflicting opinions of two Circuit Courts as to the deductibility of the depletion allowance by lanwowners leasing their property to oil companies were settled by the Supreme Court January 28 in a seven-to-one decision holding such deductions proper.

The matter came before the court on appeals from the Fifth and Ninth Circuits where, in the former, Kirby Petroleum Company, Houston, was held not entitled to a depletion deduction of $26,223 in profits received under leases to Humble Oil & Refining Company and Maryland Oil Company, while in the latter, Anna Vickers Crawford, Los Angeles, had been held entitled to the deduction on more than $400,000 paid on leases by Standard Oil Company of California and Associated Oil Company.

The opinion, delivered by Associate Justice Stanley Reed, pointed out that "the present provisions for depletion allowances have been worked out so as to give the holder of an economic interest in the oil or other natural resource an allowance for depletion."

Tax Theory Halted

"While there are other income incidents to the utilization of natural resources," Justice Reed said, "there is also an obvious exhaustion of the capital used to produce the income. In theory the aggregate sum allowed for depletion would equal the value of the natural resource at the time of its acquisition by the taxpayer, so that at the exhaustion of the resource the taxpayer would have recovered through depletion exactly his investment. The administrative difficulties in taxation of oil and gas production in view of the uncertainties of quantities and time of acquisition, that is at the purchase of the property or at the discovery of oil or gas, finally have brought Congress to the arbitrary allowance of 27½ percent now embodied in Section 114(3). Thus the 27½ percent is appropriated by the statute to the restoration of the taxpayer's capital and the rest of the proceeds of the natural asset becomes gross income. It follows from this theory that only a taxpayer with an economic interest in the asset, here the oil, is entitled to the depletion. By this is meant that under his contract he must look to the oil in place as the source of the return of his capital investment. The technical title to the oil in place is not important. . . . The test of the right to depletion is whether the taxpayer has a capital investment in the oil in place which is necessarily reduced as the oil is extracted."

In the case of lessors, Justice Reed continued, "under the leases and our previous decisions, these taxpayers had an economic interest, a capital investment, in so much of the extracted oil as was used by the lessee to pay to the taxpayers the royalties and bonuses. The taxpayer lessors were entitled to the depletion allowance on these royalties and bonuses whether they were paid to them in oil or cash, the proceeds of the oil.

"If the additional payment in these leases had been a portion of the gross receipts from the sale of the oil extracted by the lessees instead of a portion of the net profits, there would have been no doubt as to the economic interest of the lessors in such oil. This would be an oil royalty. The lessors' economic interest in the oil is no less when their right is to share a net profit. In both situations the lessors' possibility of return depends upon oil extraction and ends with the exhaustion of the supply. Economic interest does not mean title to the oil in place but the possibility of profit from that economic interest dependent solely upon the extraction and sale of the oil."

The opinion explained that if it is assumed the only payment for the privilege of oil extraction made to the taxpayer lessors by the lessees was the portion of "net income" paid under the leases, it would be clear that such payment of net income would taxwise be rent or royalty, and since the law would require the lessees to deduct the rent or royalty from their gross incomes from the sale of oil from the property before taking the lessees' depletion, a gross receipt from oil sold, equal to the amount of the net income paid to the lessors, would not be subject to depletion, unless the taxpayer lessors are permitted to apply depletion to this payment.

Extraction Reduces Capital

"This would be contrary to the purpose of the depletion statute, which is to allow to the lessor and lessee together a depletion of 27½ percent of the gross sale price of the oil," it was declared. "On the other hand if depletion on the 'net income' payments is allowed to the lessors, the lessees are allowed depletion on the gross income from oil sales less the net income payment and the entire allowable depletion is allocated between the lessors and lessees."

"In our view," Justice Reed concluded, "the 'net profit' payments in these cases flow directly from the taxpayers' economic interest in the oil and partake of the quality of rent rather than of a sale price. Therefore, the capital investment of the lessors is reduced by the extraction of the oil and the lessors should have depletion."

In another case, without a written opinion, an equally divided court affirmed a lower court decision holding a patent of Depthograph Company to have been infringed by Halliburton Oil Well Cementing Company. The patent related to is a device to measure the location of obstructions in oil wells.

Tidelands Lease Granted

Carlyle F. Lynton, executive officer of the California State Lands Commission, has announced that a lease has been awarded Signal Oil and Gas Company, Los Angeles, to drill on state tidelands adjacent to the Elwood field in Santa Barbara County. Lease comprises 1920 acres and extends out from shore to the 3-mile limit. Signal will pay the state a minimum royalty of 16 2/3 percent on oil recovered. Royalty is on a sliding scale up to 61.57 percent on a 1000-barrel well. Signal will commence drilling as soon as equipment can be hauled to a drill site on a bluff above the ocean.

Crude Runs to Stills Continue Decline; Stocks Gain Reflects Production Hike

Crude runs to stills continued to decline during the week ended January 26, and a rise in daily average production was reflected in a minor increase in crude stocks. Also, notwithstanding a considerable slump in production of gasoline, total stock accumulation of gasoline continued to advance. Production of gasoil and distillate gained slightly, but stocks of these products dropped due to diversion to residual fuel needs. Both output and stocks of residual fuels declined.

The result of the week's operations in relation to the over-all picture as compared to a year ago meant an acceleration in the rate of gasoline stock accumulations and also in the yield of gasoil and distillate. Declines were registered in all other phases as compared with last year.

In actual percentages the changes when checked against 1945 were as follows: Production, down 2.1 percent; runs to stills, down 4.5 percent; crude stocks, down 0.9 percent; production of gasoline, weekly, down 9.6 percent; stocks of gasoline, up 19.4 percent; weekly production of gasoil ond distillate, up 17.6 percent; stocks of gasoil and distillate, down 9.7 percent; weekly production of residual fuel, down 11.7 percent; and stocks of residual fuel, down 21.8 percent.

For several months now, the strong demand has been for residual fuel instead of the lighter types, with the corresponding gain in gasoline stocks, and the drop in heavier fuel accumulations.

Further adjustments in refinery yields have been announced by PAW as necessary to meet estimated first quarter requirements for heating oils on the east coast, which will mean continued decrease in gasoline output, and a gain in output of kerosine and distillate.

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

HIGHS AND LOWS OF RECENT YEARS

ITEM	Crude Oil Prod. Barrels Daily	Crude Oil Prod. Week Ended	Runs to Stills Barrels Daily	Runs to Stills Week Ended	Crude Stocks Barrels	Crude Stocks Week Ended	Gasoline Stocks Barrels	Gasoline Stocks Week Ended	Gasoil and Distillate Stocks Barrels	Gasoil and Distillate Stocks Week Ended	Residual Fuel Oil Stocks Barrels	Residual Fuel Oil Stocks Week Ended
Highs:												
1941	4,337	11–22	4,120	10–18	266,187	3–29	99,727	3–29	[1]54,983	11–15	102,448	1– 4
1942	4,337	2– 7	3,961	1– 3	263,208	3–28	[1]109,281	3–14	47,861	11–14	95,857	1– 8
1943	4,436	11–13	4,331	12– 4	245,752	5–29	94,159	3–20	47,187	11–27	72,881	1– 2
1944	4,762	9–30	4,798	12–30	240,992	1– 1	89,162	4– 1	48,162	10–28	64,744	10– 7
1945	[1]4,944	7–14	[1]5,140	8–18	227,554	10–13	99,012	3–24	45,341	11–17	56,074	1– 6
1946	4,626	1–26	4,651	1– 5	219,709	1–19	107,737	1–26	35,199	1– 5	42,371	1– 5
Lows:												
1939	[3]1,601	8–26	3,125	2–18	[2]229,127	10–12	71,152	10– 7	20,722	4–15	105,397	4– 3
1941	3,364	1–11	3,490	1–18	240,399	11–15	79,923	10– 4	28,382	4–12	90,914	7–13
1942	3,297	7– 4	3,393	5–23	231,896	12–12	75,934	12– 5	29,240	4–25	72,962	12–26
1943	3,821	1– 9	3,579	3–18	232,191	1– 9	68,182	10–16	30,732	4– 3	57,596	12–25
1944	4,357	1– 1	4,228	2–12	220,258	9– 9	76,302	1– 1	30,232	4–19	49,737	3–18
1945	3,621	10– 6	3,409	10– 6	[4]211,813	8–25	70,791	10–13	26,483	3–17	38,548	5–26
1946	4,548	1– 5	4,498	1–12	218,193	1– 5	98,494	1– 5	29,498	1–26	39,722	1–26

TRENDS OF 1945 AND 1946

Trends in Week Ended:	Crude Oil Production Daily	Crude Oil Runs to Stills Daily	Crude Oil Stocks Week End	Gasoline Production Weekly	Gasoline Stocks Week End	Gasoil and Distillate Production Weekly	Gasoil and Distillate Stocks Week End	Residual Fuel Production Weekly	Residual Fuel Stocks Week End
1945:									
January 27	4,727	4,756	221,310	14,957	88,223	4,843	33,561	9,252	51,119
February 24	4,777	4,803	219,351	15,500	95,972	4,958	28,753	9,084	46,713
March 31	4,781	4,677	223,782	14,644	98,758	4,548	26,889	9,184	41,745
April 28	4,805	4,780	223,474	14,633	94,068	4,636	28,273	9,379	39,813
May 26	4,887	4,950	222,831	15,194	89,121	4,667	29,184	9,670	38,548
June 30	4,903	4,999	220,781	15,546	86,472	4,910	32,213	9,077	40,488
July 28	4,930	4,996	218,507	16,106	86,008	4,598	36,071	9,586	42,283
August 25	4,892	4,931	[4]211,813	15,986	84,693	4,960	39,782	9,356	46,201
September 29	4,357	3,812	222,387	11,913	79,552	3,940	43,689	7,047	46,853
October 27	4,273	4,838	224,230	15,530	74,335	5,159	43,472	8,691	45,943
November 24	4,469	4,648	219,363	15,681	83,184	4,802	45,258	8,800	47,474
December 8	4,459	4,473	218,355	14,908	87,004	4,669	42,406	8,545	44,743
December 15	4,515	4,562	219,518	14,644	89,043	4,905	40,968	8,107	42,962
December 22	4,480	4,511	220,288	14,768	91,870	4,708	38,919	8,539	41,479
December 29	4,474	4,729	218,918	14,546	95,205	5,055	36,651	8,765	42,447
1946:									
January 5	4,548	4,651	218,193	14,488	98,494	5,293	35,199	8,867	42,371
January 12	4,578	4,498	219,219	14,246	99,574	5,325	33,359	8,223	40,499
January 19	4,606	4,627	219,709	13,979	100,778	5,295	31,403	8,563	40,557
January 26, 1946	**4,626**	**4,553**	.....	**13,622**	**107,737**	**5,720**	**29,498**	**8,411**	**39,722**
January 27, 1945	4,727	4,766	[5]221,646	15,063	90,222	4,864	32,668	9,528	50,801
Change:									
In week	+20	—74	+490	—357	+6,959	+425	—1,905	—152	—835
In year	—101	—213	—1,937	—1,441	+17,515	+856	—3,170	—1,117	—11,079
In year	—2.1%	—4.5%	—0.9%	—9.6%	+19.4%	+17.6%	—9.7%	—11.7%	—21.8%

[1] All time peak. [2] Lowest between January, 1922 and July 1, 1944. [3] Lowest since October, 1922, due to shutdown of six Mid-Continent states. [4] Lowest since December, 1921. [5] Stocks, January 20, 1945.

Would Tax Oil Further To Encourage Refineries

Governor Thomas Bailey of Mississippi has recommended that a tax be placed on all crude oil produced in the state and the enactment of another lower tax on oil which is refined there, this in an effort to encourage establishment of oil refineries in Mississippi. Several legislators are reported advocates of a measure raising the severance tax on crude from 6 to 8 percent with a rebate of 2 percent on that refined in the state.

The Governor also recommended establishment of an oil and gas or mineral resources conservation commission.

A state-owned and operated asphalt refinery is being discussed.

Mississippi Oil and Gas Board Provided in Bill

By Senate Bill 84, which has been introduced at Jackson, an oil and gas board would be created in Mississippi, a majority of its seven members, to be experienced in a recognized branch of the petroleum industry. Named by the governor, the board would retain a petroleum consultant and would also appoint a supervisor whose duty it would be to enforce the act. In order to pay expenses the bill proposes a tax not to exceed five mills per barrel on oil and condensate production and one-fourth mill on each thousand feet of gas.

New Highland Owners

Brown & Root, Inc., of Houston, has acquired all of the stock of Highland Oil Company of San Antonio and will move headquarters to Houston.

Highland owned both proven and wildcat acreage in Southwest and South Central Texas. The proven acreage is in the Pearsall field, Frio County.

Representing Brown & Root in the deal were V. A. Brill and A. M. Cannan formerly associated with Navarro Oil Company before that firm was sold to Continental Oil Company. New officers of Highland are Brill, president; George R. and Herman Brown, vice presidents; Herbert J. Frensley, secretary; J. T. Duke, treasurer, and Cannan, assistant secretary.

The Browns also have purchased 100,000 shares or 20 percent of the stock of Kirby Petroleum Company, Houston.

Pennsylvania Lines Laid For United Natural Gas

United Natural Gas Company has completed three short gas lines in Pennsylvania totaling 34,826 feet.

One project consisted of 4796 feet of eight-inch pipe from Heath Station, Jefferson County, to an existing six-inch line in the same township. Another line consisted of 12,691 feet of eight-inch pipe from Heath Station to an existing line in the Heath township, and the third was 17,339 feet of eight-inch pipe from Spring Creek township, Elk County, to an existing line near Millstone.

Anderson Brothers, Houston firm, was the contractor.

Union Gas Would Acquire Kansas Pipe Line System

Union Gas System, Inc., has filed an application with the Federal Power Commission for permission to acquire and operate a small gas pipe line system of The Independent Industrial Gas Company and The Veeder Supply and Development Company in the vicinity of Coffeyville, Kans.

The facilities proposed to be acquired at a price of $150,000 are adjacent to Union's present facilities, and the arrangement, the commission was told, will augment the present supply of gas available in a number of communities and improve the service rendered.

Texas and Texas-New Mexico Pipe Line Executive Named

E. R. Osborn, superintendent of The Texas-New Mexico Pipe Line Company, which operates a 12-inch looped system from New Mexico to Houston, has been transferred from Midland to Houston to become assistant manager of the firm and also of The Texas Pipe Line Company. He is succeeded by Ralph Troseth, who had served as assistant superintendent at Midland for many years.

R. W. Phillips, formerly with The Texas Pipe Line Company in Louisiana and more recently with PAW at Washington, and F. B. Whitaker, Jr., who has been on military leave, will be assistants to Troseth.

Williams Brothers Company To Maintain Big Inch Lines

G. S. Conners, vice president of the Williams Brothers Corporation, announced that his concern will maintain the "Big Inch" and "Little Big Inch" pipe lines until the government decides their disposition.

The program will be supervised from the corporation's offices in Cincinnati, and will utilize some 200 men.

Colombian Exploration Active in Third Section

After nearly a year of testing of deeper horizons, Sinu Oil Company has completed its Floresanto 1 in Colombia as a small producer from a shallow sand. More shallow wells will be drilled in an effort to trace the producing horizon more closely, pending decision to drill more deep wells.

The well, operated by Socony-Vacuum Oil Company and Tropical Oil Company, had gone to 6936 feet, and while a number of deeper sands were found, none yielded production. Final completion was in the sand that had previously produced some 5000 barrels for fuel in carrying on operations on the concession. This Floresanto sand, 620-650 feet, is in the Miocene formations, and final completion was made by perforating casing opposite this sand. It tested 50 barrels of 45-gravity oil daily through a ½-inch choke with low gas-oil ratio and very little pressure, and has been shut in. The well is reportedly capable of a higher rate of production, but completion was allowed to stand.

This is the only well in which the sand has been logged. During 1945, Numbers 2, 3, and 4 were abandoned at depths ranging from 1503 feet to 2065 feet. In early January the company abandoned its No. 5 well at 1330 feet, and location was being prepared for Floresanto 6. An effort is being made to trace the sand and the structural conditions which cause the accumulation found in the first well. The beds dip steeply, and outcrop only a short distance from the well itself. Traces of the sand were found in one or two of the other wells, but correlation has been impossible.

The area is in southeastern Bolivar, and northern Antioquia, south of the town of Monteria, and the concession covers slightly more than 25,000 hectares, now in its third year of the primary exploration period.

Colombia now has three concessions in active exploitation, producing and shipping crude oil and products. In addition this makes the third area in the exploratory phase, the other two being El Dificil, and Cangagallo, the latter being a 100-percent Socony operation.

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REPORT TO BUYERS

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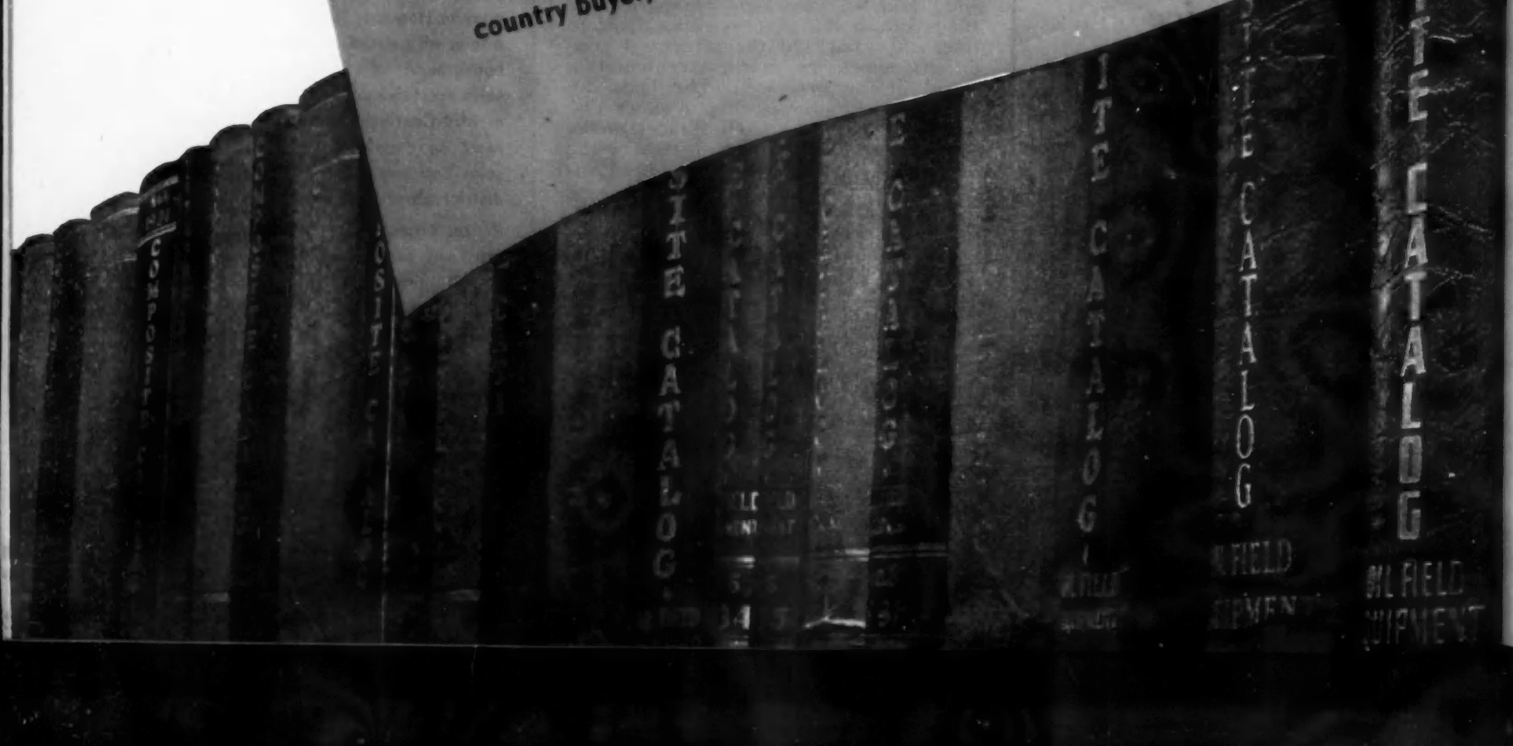
You oil country buyers have moved around so much since mid-war days when the 14th Catalog was issued, it has made it necessary to put on extra help to keep our fingers on all of you. For example, in the United States alone you buyers are at present located at 38% more points than when the 1943-44 Catalog came out.

However, we'll follow you wherever you are if you are an oil company buyer. Your employers are seeing to that; they are now revising for us their lists of buying personnel. In case you are not connected with an established oil producing company but otherwise qualify as an oil country buyer, see our offer on the opposite page.



☆ Oklahoma

McClain County Deep Tests Highlight State Activities

McClain County tests hold Oklahoma oil interest; prospective pool opener west of Kendrick to try for Cleveland sand pay; Antioch test, dry in Simpson, may produce in Basal Pennsylvanian; Creek County wildcat swabs 102 barrels of oil daily from shallow Wilcox sand.

McClain County: Current deep tests in McClain County, part of the Anadarko Basin, continue to highlight activities. In the Washington pool, The Carter Oil Company's Vierson 1, CSE NE 8-7n-3w, apparent Hunton lime producer, continues testing the Bois D'Arc and Chimney Hill sections of the lime formation. Hunton was topped at 9668 feet. Total depth is 10,681 feet. Chimney Hill zone was perforated at 10,054-75 feet, testing about 350 barrels of oil daily; Bois D'Arc was perforated at 9668-92 feet, testing 415 barrels of oil daily. Operator then pulled packer and knocked out plug to swab mud from the hole. The well flowed 45 barrels of oil in 4 hours and died due to mud. It was swabbed and kicked off to flow 63 barrels of oil in 2 hours and then died again. Testing continues. Carter's Hawkins 1, CNE NE 34-6n-3w, wildcat southeast of Criner, topped the Bromide at 9072 feet, plugged back to 8363 feet, and perforated opposite the Hunton at 8260-8300 feet, swabbed mud to 6500 feet and swab unit broke. It was repaired and swabbed almost to bottom when packer failed. Packer was reset and testing continues. Carter's Thompson 1, CNE SE 36-8n-4w, wildcat southeast of Blanchard, drill-stem tested the Hunton lime between 9700-20 feet with no shows and is drilling in Viola below 10,305 feet.

Lincoln County: R. H. Pierce was preparing to test the Cleveland sand zone at Hertz 1, SW SW SE 7-15n-5e, prospective pool opener about 2 miles west of Kendrick, which had a good show in a previous test of the Prue sand. Sand was topped at 3490 feet and after drilling plug to 3502 feet the well kicked off for an estimated 2 million cubic feet of gas blowing out the water load and clearing the hole. Deepened to 3508 feet the well recovered salt water. It was plugged back to approximately 2800 feet and perforated opposite the Cleveland between 2780-2802 feet for production test.

Garvin County: Globe Oil and Refining Company et al's Gibson 1, CSE NE 30-3n-2w, key wildcat about 5 miles southwest of Cities Service Oil Company's Antioch pool discovery, was preparing to test a sand at the base of the Pennsylvanian after a test of the Simpson zone proved a failure. Several weeks ago the wildcat encountered a good oil and gas show between 6519-54 feet and a drill-stem test recovered an estimated 6 million cubic feet of gas daily plus several oil heads and no water. Viola was topped at 7010 feet and the Simpson Dense at 7445 feet. Production string was set at 7530 feet and the hole carried to 7753 feet. Crew was plugging back to the Pennsylvanian.

Creek County: Skelly Oil Company's Hobart 1, NE SW SE 8-17n-10e, 2½ miles west of Kellyville, was being completed as a shallow Wilcox sand pool opener as operator reported the wildcat swabbing into pits at the rate of better than 100 barrels of light oil per 24 hours. Wilcox sand was topped at 2874 feet where the well had an oil fill-up after penetrating 2 feet in the sand. The well was carried to 2969 feet, pipe was set, and was then drilled to 2976 feet where it was given a nitro shot and cleaned. It is being put on the pump.

Canadian County: Fox & Fox of Oklahoma City, have resumed testing at Simpson 1, CSE SW 9-14n-5w, wildcat about 3½ miles north of Piedmont. In the past 4 weeks the wildcat, which had been shut down since last November, has produced about 200 barrels of oil flowing by heads through casing. Pay is from the Bartlesville sand from 7085-7100 feet where casing was perforated. The wildcat was started in June, 1944, drilled to 7665 feet and casing set at 7500 feet where a test of the Hunton lime proved a failure. Work was resumed in February, 1945, and the hole carried to 8365 feet, where the Wilcox sand was unproductive. Coming back up the hole all formations were tested with only small oil shows logged in the Bartlesville. The well was shut in for several months before a farmer cracked the valve and reported the hole filled with oil. When it was opened up it flowed 80 barrels of oil in 45 minutes.

☆ Kansas

Pool Opened Four Miles from Iuka Field in Pratt County

Huber opens pool southwest of Iuka; Vacek pool gets north extension; Barton County wildcat checks high on Arbuckle showing oil; well once reported as pool opener abandoned; Hugoton gas area gets 6-mile northeast extension.

Pratt County: Huber & Hatfield completed Shanley 1, NE NE 30-27s-13w, as a commercial producer to open a pool about 4 miles southwest of the Iuka field. After treating with 2000 gallons of acid the well swabbed 26 barrels of oil and about 170 barrels of water in 30 hours from plug-back depth of 4056 feet in the Lansing-Kansas City lime, topped at 3858 feet. The well was originally drilled to 4585 feet in the Arbuckle, which was dry.

Ellsworth County: Bridgeport Oil and Gas Company extended the Vacek (Arbuckle) pool ½ mile north after completing Zvolanek 1-B, SW SW SE 29-15s-10w, for a potential of 246 barrels of

Wells Completed in the United States in Week Ended February 2, 1946

Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second issue of each month. More detailed data on wildcats published in third issue of each month.

State or District	FIELD COMPLETIONS: New Wells *Oil	Gas	†Input	Dry	Total	Old Wells Deepened	WILDCAT COMPLETIONS *Oil	Gas	Dry	Total	ALL COMPLETIONS: This Week	Last Week	Cumulative: This Year	Last Year
Alabama												1	3	3
Arkansas	1				1		1		1	2	3	3	15	14
California	31				31	2			2	2	35	37	196	196
Colorado	5				5						5		10	5
Florida									1	1	1		3	1
Georgia														1
Illinois						1	1		28	29	30		109	167
Indiana									3	3	3		21	21
Iowa														1
Kansas	14	4		10	28	3			7	7	38	62	206	126
Kentucky							2	1	3	6	6	1	45	58
Louisiana	17	2		2	21				3	3	24	20	114	98
North Louisiana	10	2		1	13				3	3	16	9	61	39
South Louisiana	7			1	8						8	11	53	59
Michigan												7	60	76
Mississippi	2			1	3				2	2	5	7	24	35
Missouri														6
Montana	1				1				1	1	2	5	29	13
New Mexico	4				4	1			1	1	6	15	38	51
New York	15		10		25						25	25	125	62
Ohio	2	2		1	5						5	5	16	64
Oklahoma	20	3		8	31	2	3		11	14	47	93	269	200
Pennsylvania	27	4	15	1	47						47	45	232	200
Texas	67	3		18	88	5	1	1	22	24	117	158	730	628
E. Tex. Bor. Co.'s		3			3						3	3	19	2
Rest of E. Texas	3			1	4				2	2	6	14	42	22
North Texas	17			8	25	1			8	8	34	40	209	172
W. Central Texas	4			2	6				6	6	12	20	70	23
West Texas	22			1	23	1	1	1		2	26	33	143	158
Tex. Panhandle	3			2	5	3			2	2	10	8	44	58
G. Coast, Upper	6			3	9				2	2	11	12	63	57
G. Coast, Lower	6			1	7				2	2	9	19	102	89
Southwest Texas	5				5						5	8	29	42
S. Central Texas	1				1						1	1	9	5
West Virginia	3	5		7	15						15	14	55	60
Wyoming	4				4				1	1	5	1	12	9
Total U. S.	213	23	25	48	309	14	8	2	86	96	419	499	2,312	2,095

* Includes distillate wells. † Includes salt water disposal wells.

oil plus 42 percent water from the Arbuckle lime between 3308-15 feet. The test is also 1¼ miles north of the Stoltenberg pool which produces from the Arbuckle lime. Bridgeport's strike is attracting attention to the general area where further drilling may prove substantial new acreage between the Vacek and the Stoltenberg pools.

Barton County: Ira Keith's Hammeke 1, SE SE SW 13-19s-12w, wildcat 3 miles north of the Silica pool, may open a new Arbuckle zone pool as operator prepared to test a good oil show which showed up in cuttings between 3357-60 feet. The Arbuckle lime was topped at 3354 feet and is checking normal with the wells at the north end of the Silica pool and about 9 feet higher than a dry hole in the SW SW SW of Sect. 13.

Clark County: Helmerich & Payne, Inc.'s Peters Estate 1, NW NW SE 3-31s-21w, which was originally completed as a new gas discovery last fall, has been abandoned at 6432 feet. The test is about 9 miles north of the old Morrison oil and gas pool. At 5172-96 feet in the Mississippi lime, the well showed for 6 million cubic feet of gas per day but acid treatment failed to increase production and it was finally drilled into water in basal Mississippian at 5235 feet.

Finney County: The limits of the big Hugoton gas field were extended another 6 miles northeast as Wood River Oil Company completed Steckeljohn 1, NW NW SE 6-26s-32w, for an estimated 8 million cubic feet of gas per day. Pay is from the Krider-Herrington zone, topped at 2607 feet and producing interval is between 2607-39 feet.

Cowley County: After getting a hole full of water, Consolidated Gas Company abandoned Mendenhall 1, CNW NW 31-31s-7e, wildcat about 2 miles northeast of the Estes gas field. The test logged gas in the Bartlesville sand between 2090-92 feet but was carried down to the Arbuckle at 3275 feet, total depth.

Missouri

O. R. Newcomer et al's Ziekle 1, CSW NW 27-55n-29w, on the west edge of the Polo gas field, Caldwell County, was shut down at 1197 feet.

Nodaway County: J. E. Palensky's Wallace 1, CSW NW NW 10-65n-36w, 8 miles northwest of Maryville, was fishing at 1972 feet. At that point the bit broke through lime into shale and stuck. All 3 cones were off when tools were taken out of the hole.

Nebraska

Power Oil Company has a producer at Albin-Bohrer, in 10-1n-14e, Ogle pool, Richardson County. Hunton lime was topped at 2202 feet and the hole deepened with cable tools to 2282 feet. The well is expected to make about 50 barrels a day on the pump and is midway between 2 producers.

Arabian American Honored

Arabian American Oil Company, whose Petroleum supplies figured vitally in both the European and Pacific wars, has won the Navy's certificate of achievement for production efforts of its employes.

The award was made "in recognition of exceptional accomplishment in behalf of the United States Navy and of meritorious contribution to the national war effort."

☆ West Texas

Deeper Oil Strike Scored In Emperor Deep Field

Deeper oil zone uncovered in the Emperor deep field; Hockley County semi-wildcat showing for producer; north extension looms for Cochran County pool.

Winkler County: Texas Pacific Coal & Oil Company's Brown-Altman 1, account 4, C SW SW PSL 25, Block B-5, between the Emperor deep and Weiner fields, scored an important oil strike in making a flowing well from the Holt (Glorietta) lime, topped at 4750 feet, with elevation of 2807 feet. A drill-stem test at 4766-4812 feet yielded gas to surface within 4 minutes at a calculated rate of 500,000 cubic feet daily, and the recovery consisted of 300 feet of oil and 90 feet of mud cut with oil. Additional pay was logged in drilling to 4875 feet, and the well flowed through tester while pulling drill pipe. However, a second test at this level confirmed that bottom-hole water had been reached. Nearest Holt production prevails in the Keystone field. This new strike is considered important in that the shooting picture indicates a large structure, trending northwest - southeast, while it is also rated as a potential Ellenburger prospect.

Sunray Oil Corporation's Wheeler 1, on the northwest edge of the Wheeler field, flowed 35 barrels oil hourly natural on 5-hour test through ¼-inch choke from Devonian perforations at 8440-90 feet. This well previously scored a prolific yield of gas from Silurian perforations at 9114-44 feet, being the first big output of gas from the latter zone outside of a pool in Ward County. It will be dually completed, with perforations underway in the Ellenburger at 10,540-10,680 feet.

Andrews County: Magnolia Petroleum Company's Martin 2, 3¼ miles southwest of the South Fullerton deep area, tested salt water in the Silurian at 9954-10,035 feet, and was drilling hard lime at 10,095 feet.

Cochran County: Gulf's Taylor 1, C SE SW Sec 43 and 1¼ miles north of the Landon pool, cemented 5½-inch casing at 5000 feet after recovering a small amount of oil and gas-cut mud in running drill-stem tests at 5090-5129 and 5123-49 feet.

Yoakum County: Drilling & Exploration Company, Inc.'s Davis 1-D, projected Devonian test for the west edge of the Wasson field, entered the lime at 7700 feet, with elevation 3700 feet, and was fishing for drill pipe at 8392 feet. It is checking high to the Jones Ranch pool discovery 6 3-8 miles south by west.

Hockley County: Stanolind Oil & Gas Company's Veretto 1, Labor 7, League 72, 2¾ miles southeast of the Levelland field, resumed coring at 4889 feet after indicating commercial production with more gas than usual in the upper zone of pay. A drill-stem test at 4744-4889 feet yielded gas to the surface within ½ hour, and the recovery consisted of 225 feet of gas-cut mud and 390 feet of oil and gas-cut mud. This outpost entered the brown lime at 3450 feet and San Andres at 3770 feet, with elevation of 3562 feet. It correlates 8 feet high on the latter marker to the nearest producer.

Ector County: The Texas Company's T. P.-Fraser 1-D, a mile southeast of Ellenburger production in the TXL field and 1207 feet low because of cutting a major fault plane, flowed 435 barrels of 43-gravity oil, including 3 percent rotary mud, on natural 5¾-hour gauge through 1-inch choke from Ellenburger perforations at 10,790-10,890 feet. The gas volume was rated at 1,760,000 feet daily, or 965 feet per barrel. The oil is credited with having less sulphur content than Ellenburger production in the TXL field. This strike established the water level in drilling to 10,975 feet.

Phillips Petroleum Company's T. P. Land Trust 1-E-a, 1¾ miles south of The Texas Company's Ellenburger strike, is drilling below 9210 feet, having tested salt water at 8998-9050 feet in Devonian, topped at 8990 feet, or 496 feet low. Texas' well showed possible oil production in the Devonian. Mid-Continent Petroleum Corporation's T. P. Land Trust 1-D, east offset to the most southerly Ellenburger producer in the TXL field, tested dry from perforations at 9590-9795 feet, having previously yielded oil flow with water from lower perforations at 9820-70 feet. The Ellenburger was entered at 9600 feet, or 45 feet low to the offset.

Phillips' Eidson Unit 1, SW NE PSL 25, Block B-15 and ¾ mile west of the north end of the Penwell field, is drilling lime below 4950 feet after indicating commercial production from the Holt (Glorietta), topped at 4420 feet with elevation of 2925 feet. The Texas Company's Connell 29, 2¼ miles southwest of the Eidson Unit prospect and a failure in the Ellenburger, swabbed and flowed salt water with some oil and gas from perforations at 4590-4670 feet in the Holt, topped at 4400 feet. Perforations will be made higher in the section.

Stanolind's Williamson 1, North Goldsmith field, was drilling sandy-shale at 9810 feet in Simpson, topped at 9360 feet. The McKee sand was entered at 9740 feet, and tested dry at 9808 feet. The company's Scarbauer 3-Q, north edge of the Goldsmith field and a failure in the Ellenburger, swabbed brackish water on preliminary test of Clear Fork perforations at 6200-90 feet. This zone indicated oil production when drilled and the water may be due to accumulation of drilling fluid in the porous lime.

Cities Service Application For 80-Acre Spacing Denied

The Oklahoma Corporation Commission denied the applications of Cities Service Oil Company and of Frank Russell for 80 and ten-acre well spacings, respectively, in the new deep North Lindsay oil pool of McClain County, to bring to a close one of the longest and most hotly contested spacing hearings in the history of the Oklahoma oil industry.

Cities Service Oil Company, which opened the pool late last year, petitioned for 80-acre well spacing but the commission ruled that the drilling of a well to each 80 acres in the common source of supply will not adequately drain the unit in which the well is located and will not therefore secure the greatest ultimate recovery of oil.

In denying Russell's application for ten-acre well spacing the commission declared that such spacing would be uneconomical.

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☆ North Texas

Sivels Bend's Ordovician Test in Ellenburger Pay

Sivels Bend field's first Ordovician test reaches oil zone in Ellenburger; Crain field attains importance as production expands north and east; Ellenburger strike in Northwestern Wichita County pending.

Cooke County: Standard Oil Company of Texas Beasley 2, south portion of the Sivels Bend field, recovered 120 feet of free oil and 60 feet of mud when tester was used at 8905-34 feet in Ellenburger, topped at 8640 feet. The upper section failed to indicate production, and the zone is subnormal in permeability. A seven-foot core pulled at 8941 feet recovered 4 feet of Dolomite, with vertical fractures showing oil.

Sun Oil Company's Midkiff 1, east offset to its 6300-foot sand discovery for the Sivels Bend field, filled with oil and showed promise of making a flowing producer after drilling plugs from 5½-inch casing at 6290 feet, with the well bottomed at 6309 feet. Rig has been skidded to drill Midkiff-Davis Unit 1.

Wichita County: National Associated Petroleum Company's Proud 1, Block 189, Waggoner Colony Lands and 3¾ miles east by north of the National 4-pay field, Wilbarger County, recovered sufficient oil-cut mud and free oil in testing the Ellenburger section at 4496-4517 feet and at 4497-4520 feet to make a commercial well. Pipe was cemented at 4501 feet to complete from open hole to 4538 feet. This wildcat is 1 1/3 miles east by north of a 4912-foot Ellenburger failure, and both registered a progressive structural rise from the multi-pay area.

Wilbarger County: National's Kelly 4-A, NW NE NW H&TC 30, Block 13, gave the National field its fourth oil zone in pumping 112 barrels of oil on 16-hour test after using acid through perforations at 4454-78 feet in Bend, topped at 4452 feet. Water was reported on swabbing tests.

Grayson County: Denver Producing and Refining Company's Jewell 1, deepened Strawn discovery for the Sadler pool, was running electrical formation survey at 8583 feet in the Oil Creek saturated sand, topped at 8468 feet. Brisk trading in leases and royalties followed the recovery of oil sand. No drill-stem test has been run because of having plugged back the original hole from 8403 feet to sidetrack junk. Standard of Texas' Mitchell 1, near Sherman, was drilling shale at 5020 feet on a 12,000-foot contract.

Young County: L. T. Burns et al's Dunagan 1, northeast corner of TE&L Co. 170 and nearly a mile north of the Crain field, flowed 84 barrels hourly, with little water, on ½-inch choke from Mississippi perforations at 5048-64 feet. The low structural position of this prolific well raises the possibility of it being on a separate "high" from the main field. Hedrick Brothers and J. V. Howell and Sons' Dunagan 1, southeast corner of the same section, entered the Mississippian at 4992 feet with oil-saturated lime to 5003 feet. Pipe was cemented at 4991 feet. Burns et al's Bishop 1, east offset to the discovery, entered the Mississippian at 4897 feet, or 33 feet high and set pipe on top to complete.

Hanlon and Buchanan and Ben Rankin's Logan 1, J. Poitevent Survey A-228 and a semi-wildcat, flowed 81 barrels initial through choke after acidizing open hole at 4002-14 feet.

Montague County: Magnolia Petroleum Company's Mitchell 1, Block 22, west edge of the Belcherville field, flowed oil on drill-stem test at 5352-60 feet in Bend conglomerate, then drilled to 5444 feet in shale. Pipe has been set to complete through perforations.

☆ East Texas

Independents Take Initiative In Kaufman Exploration

Independents take the initiative in exploring Kaufman County faulted structure; Paluxy pay reported in South Tyler field; Rusk County wildcat tests water in Rodessa.

Smith County: Phillips Petroleum Company's Hughes 1, M. Long Survey and near its 2 Rodessa flowing wells in the South Tyler field, is credited with having logged about 25 feet of oil pay in the Paluxy near the 7500-foot level. This development precipitated an active lease and royalty play in the nearby Gresham townsite. The area is faulted, thus accounting for the absence of Paluxy pay in previous tests.

Rusk County: Delta Drilling Company et al's Rayford 1, 2 miles south of Henderson, tested salt water in the Rodessa at 6423-38 feet, and will continue to the Travis Peak.

Hopkins County: Delta's Livingston 1, indicated discovery, proved disappointing when tested through Gloyd perforations at 8005-32 feet for flow of salt water with nominal volume of gas and distillate. However, the showing will justify a followup test in the area.

Wildcats: Magnolia Petroleum Company's McCreight 1, Wood County, entered the Travis Peak at 8602 feet and was drilling dry sandy-shale at 8935 feet. In Rains County, Sohio Petroleum Company's Butler 1 was drilling hard sand at 8340 feet. Humble Oil & Refining Company's Todd 1, deep test for the Boggy Creek faulted structure, Anderson County, was drilling barren Rodessa at 10,990 feet.

Kaufman County: Small tracts within the Kemp townsite passed up by Humble Oil & Refining Company in assembling its large lease block on a faulted structure that is to be given a deep test have been assigned an active test and a proposed test by independents. Lease and royalty bonuses within the townsite have soared in price. Bobby Manziel's Annie Williamson 1, Block 36, J. S. Ables Survey, is the first of the townsite projects to get under way, having progressed below 2900 feet. It is slated to explore the Paluxy, and an attempt will be made to with hold drilling information. E. Fred Herschbach has been given permit to drill on the Allen 1-acre tract, Block 71, in the townsite.

Humble has avoided Kaufman County in its expansive wildcat operations in the district since independents invaded its expensive Mabank block in 1924 and condemned it with failures, thus causing the company to release its acreage without a test. This old block involved an expenditure of $838,000 cash and an oil payment.

Wood County: Delta Drilling Company's White 1, J. Stark Survey, A-537, is starting up as a Woodbine test 1¼ miles northwest of a capped low-gravity discovery by Fisher & Jackson in the Oak Grove area. Sub-Clarksville and Woodbine are prospective oil zones, while the test may be carried to the Paluxy. Nearby lease owners are credited with contributing $15,000 dry hole money towards the test.

Houston County: Fred M. Manning, Inc.'s Houston County Timber Co.-Magnolia 1, 5 miles southeast of Weches and a failure in the Woodbine, topped at 6030 feet, was abandoned at 6718 feet after drilling to the Georgetown for geological information.

☆ East Texas Border

Marion and Harrison County Wildcats Record Gas Flows

Marion and Harrison County wildcats record flow of gas; Shelby deep test plugged back to 11,100 feet.

Harrison County: R. W. Williams' wildcat, J. M. Furrh 1, F. O'Neil Survey, had a small flow of gas from perforations at 6504-14 feet, on a 1¼-hour drill-stem test using ¼-inch chokes. No oil or salt water showed. Perforations at 6430-40 and 6282-94 feet are planned before further tests are made. Total depth is 6850 feet.

Arkansas Fuel Oil Company's Mrs. Zack Abney 1, J. B. Stewart Survey, is drilling below 2532 feet in sand and shale.

Bert Fields et al's wildcat J. M. Furrh 1, L. Womack Survey, is coring at 5682 feet.

Marion County: Magnolia Petroleum Company's wildcat Orr 1, R. B. Fowler Survey, is drilling at 8811 feet in sand and shale.

Rogers Lacy's Scott 1, wildcat in Alex Johnson Survey, is testing. The well, perforated at 5922-38 feet with 92 shots, and acidized with 2500 gallons of acid, flowed an estimated 4½ million cubic feet of gas per day and a small amount of distillate. Total depth is 7530 feet.

Shelby County: Humble Oil & Refining Company's Pickering Lumber Company 1, wildcat in St. Francois Survey, went to 12,221 feet, recovered fish, and is plugged back to 11,100 feet, now waiting on cement.

☆ South Central Texas

Tanglewood Area Project Drilling After Flow Test

Tanglewood wildcat in Lee County drilling after flow test; drilling continues in other wildcat tests.

Lee County: Humble Oil & Refining Company's Geo. Vick et al 1, wildcat in the Tanglewood area, resqueezed perforations at 6060-75 feet and is drilling below 6470 feet in anhydrite and lime. Initial test at the perforated horizon gauged 100 barrels of fluid per day, but only 1 percent of oil accompanied by 1,080,000 cubic feet of gas through 3/16-inch choke with 1725 pounds tubing pressure.

Gonzales County: Quintana Petroleum Company's Anna Apahn 1, wildcat in the north half of Block 17, Range 5, Town-

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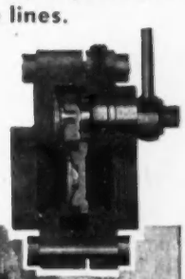

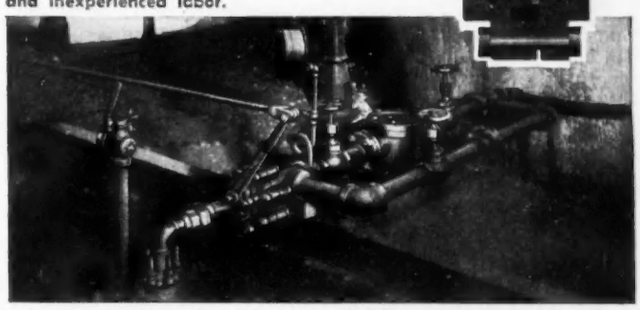

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The February 11th issue of OIL WEEKLY's Yearbook-Forecast is too important to leave around in exposed places without a ball and chain hooked to it. . . . Perhaps you've had the experience of losing Yearbook issues in past years. . . . If you have you are warned that the 1946 Yearbook will need a real body-guard for protection. . . . It's the consummation of the editors' toughest mathematical tussle.

ship of Gonzales, was last reported drilling below 9800 feet.

LaSalle County: Humble's St. Louis Union Trust Company 1, wildcat in the GB&CNG Survey 1249, about 22 miles east of Encinal, was drilling in sandy shale at 3720 feet.

Maverick County: The South Oil Corporation's D. D. Foldman 1, wildcat 2 miles northeast of Eagle Pass, drilled sandy shale at 1154 feet, and is scheduled for 7500 feet.

Hearing on Gas Flares Is Scheduled in Texas

The Texas Railroad Commission has scheduled its first district gas conference for February 6, at Corpus Christi. This is an informal hearing, the first of four to be held at various points in Texas to consider means of eliminating flared gas.

Each operator must be prepared with data showing the quantities of gas flared and any recommendations to prevent it.

The notice of hearing stated that appropriate orders would be entered based on the evidence offered at the hearing. All fields in Districts 1, 2, and 4 are included.

Gulf Coast Map Offered

A new oil and gas field map of the Gulf Coast area of the United States has been prepared by Gulf Coast Engineering Company, 607½ San Jacinto St., Houston. The map shows all oil fields completed to the end of 1945. In addition it shows highways. The map covers the area along the Gulf of Mexico from the Rio Grande River to the Mississippi River. It has been drawn on a scale of one inch to eight miles. The map is 3½ feet tall and about seven feet long.

☆ Southwest Texas

Protective String Set in Webb County Deep Wildcat

Protective string set in Webb County wildcat, another located; Harvey Mecom spuds Zapata County wildcat; 5000-foot wildcat test staked in Starr County.

Webb County: Sun Oil Company's Isaac Hirsch 2, deep wildcat 26 miles northeast of Laredo, set 9 5/8-inch protective casing after running an electrical log to 5093 feet. The well is drilling toward proposed depth of 7500 feet.

Dunlaney Oil Company's Bruni 21, a 2000-foot wildcat test about 12 miles south of Mirando City, is located on a 111.9-acre lease in block 73, Brown subdivision of the Albercas Grant.

Zapata County: Harvey Mecom of Houston has spudded Calixto Gutierrez et al 1, wildcat on a 4563-acre lease in Porcion 1, about 5 miles northeast of the town of Zapata, for a proposed depth of 2500 feet. Location is 1577.5 feet northwest of the common line between Porcion 1 and Porcion 41, and 14,030.2 feet northeast of the Rio Grande River.

Starr County: Zimmerman & Garcia of McAllen have staked M. M. Garcia 1, wildcat slated for 5000 feet, 18 miles northeast of Rio Grande City, on a 335-acre lease in Block 6 of Survey 918.

☆ Lower Texas Coast

Long-Abandoned Berclair Discovery Well Flows Anew

Berclair discovery well, abandoned in 1942, flows again; 19 million cubic foot gasser completed near Robstown; 2 dual completions given Seeligson field; Humble completes good oil producer in Willacy County.

Bee County: Mills Bennett's Martha Berger et al 1, wildcat in the J. M. Uranga Grant, 2 miles southwest of Tuleta, set 5-inch liner on bottom at 8890 feet in preparation to test shows in the Wilcox at 8600-06 feet and 8745-90 feet. If these tests fail to make commercial shows, operators plan to plug back to the Luling sand below 8090 feet where a drill-stem test showed gas-condensate. Shows of gas-condensate were also found in the Slick section at 7896-97 feet.

Magnolia Petroleum Company's E. H. Buckner 1, wildcat discovery for the Berclair field in the Thos. Simmons Survey, is producing again after abandonment in October, 1942. Originally drilled to 10,561 feet, production of gas-condensate came from perforations at 10,020-150 feet. Under recent operations, a packer was set at 10,022 feet and the well flowed an ungauged amount of gas-condensate through 1/8-inch choke under 5100 pounds working pressure when tested. Production is from the Wilcox.

Sam E. Wilson, Jr. is drilling below 7200 feet in A. Page Estate 1-A, C. Rivas Survey A-280, 1½ miles southeast of Cadiz. This Wilcox test is scheduled for 8500 feet.

Nueces County: The Atlantic Refining Company's James H. Ewing 1, 3 miles southwest of Robstown in the M. L. Lopez de Herrera Grant, was completed as a gas-condensate producer with a potential of 19 million cubic feet daily and an unestimated amount of 50-gravity condensate. The gas-oil ratio is 68,000/1 with a shut-in pressure of 4190 pounds. Production is from perforations at 8254-68 feet.

Jim Wells County: Humble Oil & Refining Company's M. A. Evetts 4, in the Roberts & White subdivision of the McIntosh tract, 689 feet southeast of No. 2 well in the North Magnolia field, was completed for 234.6 barrels of 30.8-gravity oil daily through a 3/16-inch choke from perforations at 5395-405 feet under 700 pounds of tubing pressure. Five and one-half inch casing was set on bottom at 5411 feet.

Jim Wells County: Shell Oil Company has dually completed Lillie Seeligson 26, Seeligson field, for 297.8 barrels daily of 39.4-gravity oil through a 12/64-inch choke from perforations in Zone 13 at 4905-20 feet. Production from perforations in Zone 19-D sand at 5976-6005 feet gauged 335 barrels of 41.7-gravity oil daily through a 12/64-inch choke.

Sun Oil Company's P. Canales 71, also in Seeligson field, was completed for dual production and gauged 126.8 barrels of 43-gravity oil daily through a 5/32-inch choke from perforations in Zone 16 at 5532-42 feet. The second completion was made in Zone 20 from open hole in the sand topped at 6104 feet, for a flow of 41-gravity oil per day through a 9/64-inch choke. Pipe was set at 6110 feet with total depth at 6115 feet.

Jackson County: Skelly Oil Company's Arthur Drexel 1, in Lots 56 and 63, P. Green Survey, Grancitas field, was under completion test. Production from perforations at 7379-99 feet through a 3/32-inch choke gauged 202.14 barrels of fluid with tubing pressure 900 pounds and casing pressure at 1650 pounds. Five and one-half inch casing was set at 7969 feet with total depth of well at 8003 feet.

Magnolia Petroleum Company's W. A. Stockton 2, La Gloria field, made a potential of 95.2 barrels of 43.9-gravity oil per day through 1/8-inch choke from perforations at 6422-27 feet with 675 pounds of tubing pressure. Gas-oil ratio was 1140/1, and total depth was 6445 feet.

Willacy County: Humble's Sauz Ranch-Mulatos Pasture 22, in the Willamar field, was completed in perforations at 7905-30 feet for a daily potential of 220.84 barrels of oil per day through a 3/16-inch choke. Tubing pressure was 550 pounds, with a gas-oil ratio estimated at 474/1.

Gas Hearing Date

Because of a conflict with FPC's gas hearing in Mississippi, the Louisiana State Conservation Department has postponed from February 15 to March 12 a New Orleans hearing on whether prorating natural gas is feasible in Louisiana. The hearing previously had been postponed from December 17.

☆ Upper Texas Coast

Midfield Area New Field Discovery Well Is Gauged

New field discovery well in Midfield area gauged; Stanolind makes successful completion in new deep pay in Lucky field; another Cockfield completion noted in San Jacinto County; protective string set in Raccoon Bend flank test; High Island flank well completed in Galveston County.

Matagorda County: Sun Oil Company's Strnadel 2, wildcat discovery in the Midfield area, located just 933 feet northwest of the Strnadel 1, dry hole drilled last year, made a potential gauge of 250 barrels of 38.1-gravity oil per day through a ⅛-inch choke from 8 perforations at 9134-35 feet. Tubing pressure was recorded at 2000 pounds with casing pressure 950 pounds. Seven-inch casing was set on bottom at 9477 feet. A confirmation test has been staked 2087 feet northeast of the discovery well. This will be Sun's R. B. Trull 1, and is slated for 9200 feet.

Stanolind Oil & Gas Company's John E. Thompson 1, deep sand test in the Lucky field area, Elilisha Hall Survey, has been deepened to a total depth of 10,248 feet after being abandoned in 1941 at 9700 feet. While cleaning through a ½-inch choke, the well showed mostly gas and some condensate, and built up 4000 pounds tubing pressure and 3900 pounds casing pressure. A 4-inch liner 2424 feet long was cemented 3 feet off bottom and perforated at 10,175-98 feet with 69 shots, while 2-inch tubing was swung at 7790 feet. The well is now shut in waiting on a new Christmas tree.

San Jacinto County: Butcher-Arthur, Incorporated, completed W. C. Childress

1-B, W. M. Logan Survey about 1000 feet northeast of the discovery well for the area, in the Cockfield sand for a potential of 171 barrels of 43.1-gravity oil per day through a 10/64-inch choke from perforations at 4470-4500 feet. Total depth is 5620 feet with 5½-inch casing set at 5616 feet.

Galveston County: John W. Mecom's Cade et al 3, southwest flank test of the High Island field, W. M. Hudson Survey, was completed for an initial gauge of 361 barrels of oil on a 24-hour test through a 3/16-inch choke from 18 perforations at 6341-47 feet. Tubing pressure was gauged at 900 pounds and casing pressure 950 pounds. Seven-inch casing was cemented on bottom at 6477 feet.

Trinity County: Magnolia Petroleum Company's Bolton 2, wildcat 3 miles west of Glendale, was attempting to pull 1900 feet of 5-inch liner intended to be set at 12,100 feet, but became stuck. Two tests made in the Edwards lime, one at 10,500-520 feet and the other at 10,550-60 feet, showed gas and condensate. Total depth of the hole is 12,505 feet with 7-inch casing set at 10,642 feet.

Harris County: Gulf Oil Corporation was preparing to spud C. S. Settegast et al 2, a 11,000-foot test 300 feet east and slightly north of the No. 1 dry hole, on the west flank of Pierce Junction field in the Jos. Kapman Survey, abstract 185. Nearest production is in Rio Bravo's J. J. Settegast 1-A, 2270 feet northeast.

Magnolia's Warren Ranch 3, confirmation test at Hockley and southeast of the No. 2 discovery, is drilling below 6100 feet in shale after recovering 900 feet of oil and 200 feet of salt water through ¼-inch chokes top and bottom from a 60-minute drill-stem test at 5970-80 feet.

Wharton County: Seaboard Oil Company of Delaware completed Reba S. Snell 2-A, SW/4 62 in the E. T. Wilson Survey, on the south edge of El Campo, for 194.76 barrels of pipe line oil daily with tubing pressure gauged at 1075 pounds and casing pressure 1275 pounds. Production is from 24 perforations at 6662-66 feet through a ⅛-inch choke. The well was drilled to 6956 feet with 5½-inch casing set at 6891 feet.

Austin County: Humble Oil & Refining Company's Luther R. Sherrod 16-Y, deep test in the Wm. C. White Survey on the flank of Raccoon Bend dome, set a 9⅝-inch protective string in the 9004-foot well, after having found salt water on drill-stem tests at 6692-6700 feet and at 8786-8801 feet. Drilling is expected to continue to 12,000 feet.

Ernst Klappenbach, Publisher, Advertising Executive, Dies

Ernst Klappenbach, 52, vice president of the *Petroleum Publishing Company* and advertising manager for *The Oil and Gas Journal,* died January 26 in Tulsa following a heart attack.

Klappenbach had been associated with *The Oil and Gas Journal* for 23 years and resided in Tulsa since 1929 going there from Chicago to become advertising manager for the *Journal.* He entered the publishing business early in life and was associated with various magazines and publications, at one time being co-partner in publishing a golf magazine. He was nationally known among oil well equipment manufacturers and was active in Tulsa civic and business affairs, at one time serving as a director of the Tulsa Chamber of Commerce.

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☆ South Louisiana

Beauregard Parish Strike Is Registered by Magnolia

Magnolia has field discovery in Beauregard Parish; production pipe set in Little Temple area wildcat of LaFourche Parish; new deep sand production test attempted in West Tepetate field; Mud Lake wildcat sets protective string.

Beauregard Parish: Magnolia Petroleum Company's Lutcher-Moore Lumber Company 2-C, 22-5s-11w, northeast of the Bancroft field and east of the West Pinegrove field, brought in production from the Cockfield to establish a new field for that area. A drill-stem test from perforations at 7627-31 feet gauged 175 barrels of pipe line oil daily through ¼-inch and 7/64-inch chokes. The drill pipe was packed off at 7618 feet in 7-inch production pipe set at 7700 feet. It was originally scheduled for a Wilcox test, but drilling operations were discontinued at 11,618 feet. Additional perforations were made at 7638-42 feet in preparation for a Conservation Commission test.

Magnolia's M. J. Witski 1, NW 22-6s-11w, 2 miles southeast of the Oretta field, was drill-stem tested for an estimated 75-100 barrels daily from perforations at 8422-24 feet through 1/8-inch and ½-inch chokes with working pressures 1450 pounds. Total depth of the well was 8969 feet with 5½-inch casing at 8700 feet. Production is from the lower Cockfield, which is 300 feet lower than the same pay formation of Magnolia's Musser-Davis Lumber Company 1, Oretta field discovery well where production is through perforations at 8708-12 feet.

LaFourche Parish: Humble Oil & Refining Company's Louisiana Delta Farms Company 1, Little Temple area prospect, 19-17s-23e, is reported to have topped 30 feet of good oil sand at 11,600 feet. The well was drilled to 12,007 feet with 5½-inch casing set at 10,735 feet.

St. Landry Parish: Crosby Drilling Corporation and Lyle Cummins' Eugene Gordon 1, SE/4 SW/4 2-3s-6e, Woodside area, encountered 2 sands which showed oil saturation and is now drilling. Cores from 9205-25 feet recovered 12 feet of hard sand giving a good odor and some saturation. A second sand topped at 9250 feet was cored to 9280 feet with showings of a good oil odor and a slight oil saturation. An electric log run at 9280 feet showed the top of the Wilcox at 9210 feet.

Jeff Davis Parish: Barnsdall Oil Company's M. M. Stafford Unit 1, in the West Tepetate field, 36-7s-3w, is fishing for a production packer set at 9423 feet in 5-inch liner, after failing in 2 attempts to make satisfactory production tests. The initial test through perforations at 9894-9902 feet made 52-gravity distillate, but this zone was squeezed off and reperforated at 9505-08 feet where another squeeze job was made. After drilling in cement to 9626 feet, the liner was perforated with 31 shots at 9515-22 feet where production tests will again be attempted. The 5-inch liner is set from 9285 feet to the bottom at 10,005 feet.

Acadia Parish: Sun Oil Company-Sohio Petroleum Company's Bradford Estate 1, 10-10s-2w, Egan field area, was completed for 168 barrels daily through 1/8-inch choke from perforations in the Camerina sand at 10,070-90 feet with 1350 pounds tubing pressure. The 7-inch casing was set on bottom at 10,625 feet.

Sun-Sohio's E. M. Regan 2, 31-9s-1w, was completed for a potential of 300 barrels daily of 38.9-gravity oil from 60 perforations at 10,085-95 feet through 9/64-inch choke with tubing pressure at 1725 pounds. Gas-oil ratio was 597/1.

Amerada Petroleum Corporation's Julia G. Richard 1, 75-7s-3e, in the South Lewisburg extension, was completed as a gas-condensate producer with a potential of 48 barrels of 51.8-gravity condensate and 1,782,000 cubic feet of gas daily.

API Coast Meet

The spring meeting of the Pacific Coast District, Production Division, API, will be held at the Los Angeles Biltmore April 11 and 12. Basil P. Kantzer of Union Oil Company, is chairman of the district and Malcolm W. Morris of Standard Oil Company of California chairman of the program committee.

☆ North Louisiana

Production in Pettit for Longwood Area Established

Pettit production for Longwood area established; Bossier wildcat readying for production test; Franklin field strike completed on pump; Bull Bayou deep test abandoned.

Caddo Parish: J. R. Querbes completed the first Pettit producer in the Longwood Travis Peak area, as E. T. Currie 1, C SW SW 20-19n-16w, gauged a flow of 9½ million cubic feet of gas and an unestimated amount of distillate per day through ½-inch choke on tubing. Estimated open flow is 24,500,000 cubic feet of gas. The well is producing through 40 perforations at 5530-52 feet, after the formation was acidized.

Big West Drilling Company's wildcat C. L. Ellerbee 1, 27-15n-12w, Caspiana area, was abandoned at 9605 feet without shows. Travis Peak was topped at 6230 feet and Cotton Valley at 8671 feet.

Union Producing Company's Noel Estate A-1, Longwood area wildcat, 11-19n-16w, drilled plug out of 7-inch casing set at 8526 feet, and is drilling below 8638 feet in the Cotton Valley. The well has logged Travis Peak showings from 5701-16 feet, which will be tested after reaching contract depth.

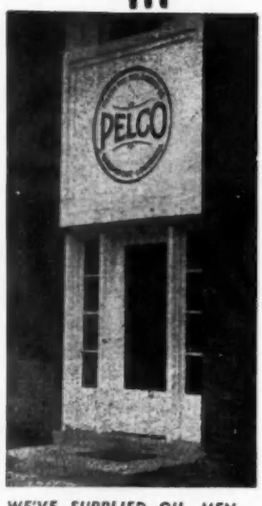
Bossier Parish: H. C. Owens' wildcat, Skidmore 1, C NE SE 1-16n-11w, ran electrical survey at total depth of 5365 feet, and is preparing to perforate for tests. A core from 5330-40 feet in the Pettit recovered 10 feet of lime showing distillate and gas odor. A 20-minute drill-stem test recovered oil-cut from 5330-45 feet.

Barnsdall Oil Company et al's Crystal Refining Company 1, 28-21n-11w, is drilling below 6513 feet.

Franklin Parish: Gus K. Primos and C. W. Sharp completed Butler 1, C SW NW 20-16n-8e, pumping 65 barrels of 37.9-gravity oil daily. The test opened a new field 3 miles south of Big Creek production in Richland Parish. It produces from the Paluxy sand at 3514-41 feet. Total depth is 3787 feet. Offsets will be staked soon.

Strange Attitude for Supply Company!

Looking around, as we brazenly do sometimes, we gather that the supply business should seem boresome. One should look glum when a customer wants something routine. One should look mystified, or merely yawn, if the customer wants something unusual, including a little service. We strongly suspect ourselves of being pixilated. For one thing, we doodle. For another, we enjoy the supply business. It is still new and interesting after 37 years. The customers are stimulating. We have never yet yawned, or felt like it, except from loss of sleep. Never TRY PELCO FIRST if enthusiasm rebuffs you.



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F. Boykin King Company has applied for permit for a Paluxy wildcat, Baskin Estate 1, C SE NW SW 35-16n-7e.

Materials are being moved in at J. M. Hazlewood Company's Baker 1, 36-16n-9e, 5300-foot wildcat test, 1½ miles east and ¾ mile south of Lamar production.

LaSalle Parish: A wildcat location has been staked 7 miles northeast of Olla production, McElreath & Suggett's Urania Lumber Company 1, C SW SE 3-10n-3e.

DeSoto Parish: Spartan Drilling Company's B. F. Thigpen 1, C NE NW 29-12n-11w, wildcat deep test in the Bull Bayou field, went to 9100 feet, perforated with 67 shots from 4530-40 feet but recovered only brackish water on drill-stem test, and was abandoned.

Natchitoches Parish: Magnolia Petroleum Company's Union Saw Mill 1, C NW SE 7-6n-6w, wildcat, is below 6420 feet in sand and shale without showings.

☆ Arkansas

Barnsdall at Work on Test East of Patton Extension

McKamie test starting east of Patton extension; Atlanta outpost fails; new wildcat to start in Miller County; Logan wildcat reports show of gas.

Lafayette County: Barnsdall Oil Company has started work on Colonel Moore 1, 34-17s-24w, Smackover lime test in the gas-distillate McKamie area. The test is east of Mid-Continent Petroleum Corporation's O. S. Moore 1, second oiler and extension for the Patton field, which extends production ¾ mile east and ¼ mile north of the Moore Heirs 1 discovery well.

Columbia County: Harry Bass Drilling Company abandoned its outpost test, W. D. Baker 1, C SW SW 12-18s-20w, in the Atlanta field, at 8368 feet. Its location, about 1 mile northwest of Atlanta production, and between Atlanta and Calhoun, made it of interest. Smackover was topped at 8358 feet, and porosity with salt water at 8365 feet. Top of porosity was 4 feet below Atlanta field's water level.

Deep Rock Oil Corporation completed J. S. Pittman 1, C NW SE 17-18s-19w, in the Atlanta field, flowing 105 barrels of oil daily through 7/32-inch choke. The well is producing from the Smackover through perforation at 8292-95 feet. Total depth is 8320 feet with 5½-inch casing set on bottom.

Miller County: G. Anthony et al are running electrical survey at contract depth of 4610 feet in W. A. Smith 2, wildcat in 24-15s-26w, 3 miles northeast of the Garland City field's Paluxy production. Anhydrite was topped at 3760 feet, and no showings were recorded at any level.

The Texas Company will start C. W. Persons 1, C NE SE 29-16s-25w, wildcat, 3 miles southwest of Garland City, and go to 4000 feet or deeper. Location is based on sub-surface geology.

Union County: The Carter Oil Company's Powell 1, 33-16s-18w, Salem Church field, cemented production string. Electrical log indicated Smackover lime at 7041 feet with porosity at 7061 feet. Total depth is 7064 feet.

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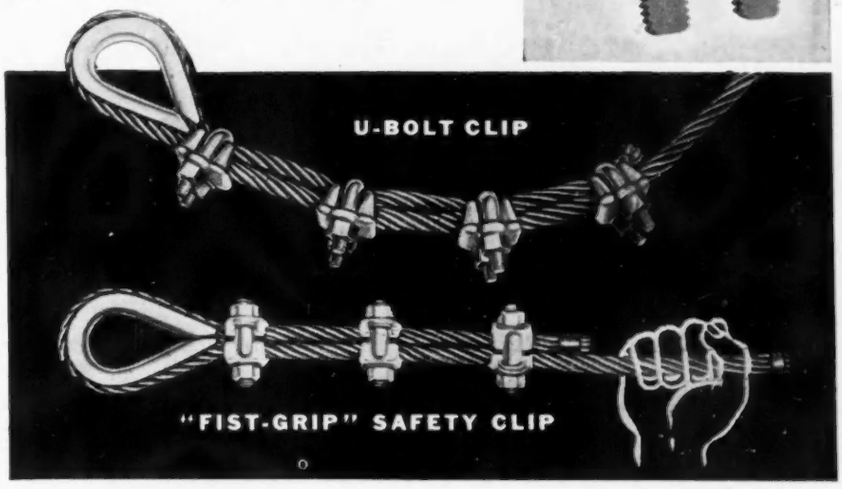


LAUGHLIN

THE MOST COMPLETE LINE OF DROP-FORGED WIRE ROPE AND CHAIN FITTINGS

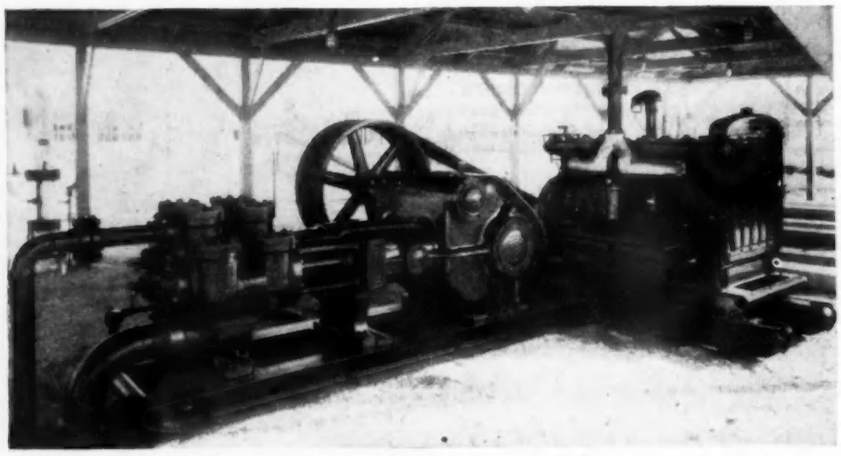
☆ Mississippi

Baxterville Extension Try Apparently Due for Success

Attempted Baxterville extension appears headed for successful completion; Fayette field being rapidly developed; Jones County prospect abandoned.

Lamar County: The Superior Oil Company's R. Batson 6, SWc NE NW 20-1n-16w, Baxterville field, which will extend the field a short distance southeast if successful, is drilling in the 9900-foot zone after coring good shows of heavy oil from the Basal Tuscaloosa section between 8827-38 feet. Previously, the Eutaw sand topped at 7572 feet had yielded shows of gas in cores at 7712-25 feet. If this well follows the line in previous Batson extensions a dual completion is indicated from the 2 horizons. Humble Oil & Refining Company's Lamar County Board of Supervisors 2, SE NW 16-1n-16w, Baxterville, is drilling below 6200 feet. A drill-stem test of the Wilcox zone at 5455-70 feet recovered only mud and salt water. Gulf Refining Company's Mrs. L. T. Simpson 1, NEc SE 8-1n-16w, is running core tests of the Eutaw at 7825 feet with no shows indicated.

Marion County: Humble's E. A. Ball 2, SW SE 20-2n-14e, Hub field is making drill-stem tests after recovering shows of oil and gas at 8884-8905 feet and 9080-9108 feet. This field already has 4 good producers. Humble's W. E. Walker 1, SW SE 25-2n-18w, wildcat headed for the Tuscaloosa, is drilling below 5598 feet after running electrical log to 5359 feet.



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Jefferson County: Humble's M. R. Smith B-1, 16-9n-1e, offset to the discovery well in the active Fayette field, is squeezing perforations in preparation for further tests of the Massive sand zone. A drill-stem test below 9700 feet yielded 1300 feet of oil and gas-cut mud, while previously commercial production was assured after a successful test at 9745-50 feet. Humble's J. Fred Gordon 1, NEc 25-9n-1w, Fayette, is drilling below 8279 feet with no shows reported. Humble's S. Hirsch Company 1, 15-9n-1e, in Fayette, continues to test the Massive sand zone after successful tests of the same zone recovered commercial flows of 40.6-gravity oil.

Jones County: Premier Oil Refining Company & A. W. Hutchings' J. W. McKinley 1, SWc NW SW 26-9n-12w, has been abandoned in the Massive sand zone at 7706 feet. No shows were recovered.

Franklin County: The California Company's Homochitto Lumber Company 1, 27-7n-1e, in the northeastern section of Cranfield field, is making preparations for tests after reaching the potential productive zone at 10,370 feet. If this well is successfully completed it will mean the most important extension of the field since the development of the Ella Lees extensions last year. Gulf Refining Company's Ella G. Lees 3, 32-7n-1w, also attempting an extension of Cranfield across the county line, is drilling below 7500 feet. Wilcox horizon was topped at 4205 feet but no shows were reported from that zone.

Adams County: Phillips Petroleum Company's Davey 1, 46-8n-2w, hottest wildcat of the moment, has released nothing official on reports of commercial potentialities. Casing has been perforated opposite the Massive sand horizon and well is making preparations to test.

Yazoo County: C. F. Urschel's Slick Estate 25, SEc 35-11n-3w, Tinsley field, has set 7-inch casing at 6506 feet and is testing after having seemingly assured a new producing zone for the field. The well was bottomed at 7516 feet and then plugged back to sands in the 6400-foot zone where good saturation and shows were developed.

Wayne County: Two good producers have been completed in the Eucutta field. Gulf's Wausau Southern Lumber Company 4, NEc NW NE 12-9n-9w, pumped 81 barrels of oil on its initial production test with production from the Eutaw horizon. Gulf's Mrs. Eretta Langley 1, NWc NE NW 11-9n-9w, has been closed in and is waiting on storage after well was swabbed in. Gravity of the oil and 33.6.

Jasper County: Skelly Oil Company's M. J. Lightsey 1, SW SW NW 18-1n-13e, East Heidelberg field, has been successfully completed with an initial production of 88 barrels of 23.1-gravity oil per day. Development of the field has leveled off sharply in the last few months after exploitation reached its maximum last fall. Tide Water Associated Oil Company-Gulf's Simmons-Morrison 1, NEc NW SW 30-1n-13e, East Heidelberg, is installing pump in preparation for completion after successful tests of the Eutaw.

Florida

Humble Oil & Refining Company's G. C. Carlton Estate 1, C SW NE 34-38s-29e, Highlands County deep test, has been abandoned after reaching 12,985 feet. Slight shows of oil and gas had

been recorded at 9397 feet, but no further shows were reported.

Monroe County: Gulf Refining Company's State 1, SWc 2-67s-29e, wildcat, is drilling below 3177 feet in lime. The well has been cored continuously but no shows have been reported. O. D. Robinson's State Well 1, NEc NW 29-59s-40e, is drilling below 9157 feet with no shows reported.

Lafayette County: Sun Oil Company's Crapp's 1, deep wildcat in SW NE 25-6s-12e, is running core tests below 4140 feet. A drill-stem test at 3300-20 recovered only mud and salt water.

Collier County: Humble Oil & Refining Company's Gulf Coast Realties 6, C SW NE 19-48s-30e, Sunniland field, is rigging up new boilers. The test is at 9184 feet.

Hillsborough County: Humble's T. S. Jameson 1, C NE NE 7-31s-22e, has derrick up. Rig will be moved to location when weather permits.

Alabama

Newman Oil Company's wildcat Lam 1, C SW NW 10-4s-1e, Madison County, is drilling below 720 feet. Alabama's only 2 active tests in Walker County are still shut down.

Georgia

Kerr-McGee Oil Industries' (formerly Kerlyn Oil Company's) wildcat, Cecil Pate 1, C SE Lot 144, Thirteenth Land District, Crisp County, is drilling below 4110 feet in sand without showings.

Brantley County: W. W. Dedingfield is moving in rig to deepen his old wildcat, Timberline 1, on 138-acre tract in Land Lot 2, Land District 2. The well was abandoned at 3090 feet.

Montgomery County: James E. Weatherford has rig partly up, and is shut down at H. Wilkes 1, Military District 1567, ½ mile west of Higgaston.

☆ Michigan

Tuscola Test Shows 400 Feet Of Oil Natural in Dolomite

Fred Riddell's Clark 1, NE SE NW 33-10n-7e, wildcat midway between old Birch Run and Ottisville pools, Tuscola County, showed 400 feet of oil natural in the Dundee lime-dolomite section at 2551-54 feet. Top was logged at 2461 feet. After 500 gallons of acid the well recovered an estimated 40 barrels of oil in 18 hours.

Montcalm County: Sohio Petroleum Company, Union Oil Company and Barber's Douglas 1, NW SW SE 3-12n-8w, closely watched Cato Township wildcat, produced 57 barrels a day after first acid treatment and increased to 96 barrels of oil after second treatment. However, the well started to show water cut, up to 20 percent.

Arenac County: Holloway and Whyte's Jankowski 1, NW SE NE 23-19n-4e, flowed 400 barrels of oil per hour from Dundee at 2726-32 feet to extend prolific dolomite zone another ¼ mile southeast and open up at least 6 new locations for immediate drilling.

Gratiot County: A. E. Williams and associates surveyed 5 new locations for the Elba field, Gratiot County, and Wicklund Development Company made location for the first follow-up activity in the area since completion of a 60-barrel Traverse lime well at 2440 feet.

☆ Illinois Basin

Discovery of Clay County, Illinois, Pool Completed

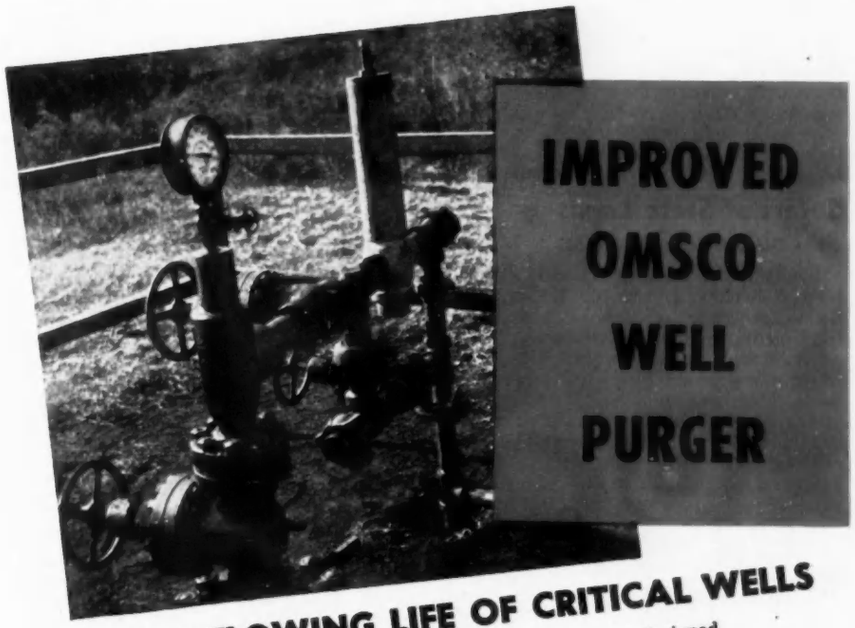
Discovery of Flora pool, Clay County, Illinois, is completed; Hamilton County prospect sets casing for tests of Cypress; Coles County test to try Devonian; Cascade Refining has good producer in Mattoon pool.

Illinois

Deep Rock Oil Corporation's Givens 1, NW NW SE 4-2n-6e, Clay County, has been completed as the discovery of the South Flora pool. On initial pump test, the well yielded 240 barrels in 24 hours from McClosky lime at 2976-82 feet after 4000 gallons of acid.

Hamilton County: Dale Hopkins' Johnson 1, NE SW NE 24-6s-7e, has set casing for tests of Cypress sand at 2950 feet and Aux Vases sand at 3180 feet. Total depth of the wildcat is 3400 feet.

Coles County: One of the most important tests drilling in the Mattoon pool area is National Consumers' Herkimer 3, SE NW NE 11-2n-7e, at the north edge of the city of Mattoon. Found dry in the Rosiclare sand, the operators are drilling the well to the Devonian lime, expected at 3300 feet. Only 2 other Devonian tests have been made in the field and those more than 5 years ago and more than 4 miles south of the present test. A show of oil was recovered in an unidentified zone near the



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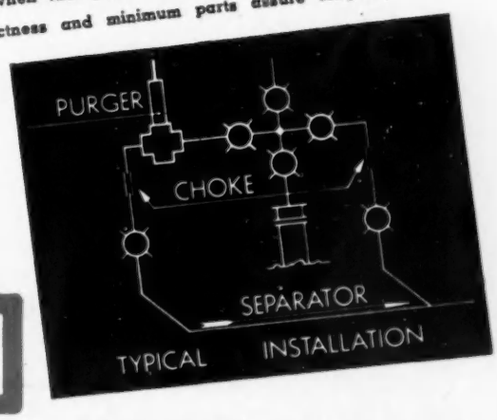

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Chattanooga shale during a coring operation.

The same operators' Arthur 1, SE NE NW 2-12n-7e, a mile north extension for the pool, swabbed 5 barrels per hour natural from Rosiclare sand.

C. G. Davis' Carlyle 1, SW SW NW 11-11n-7e, which linked two producing areas a mile apart, was ready to go on pump after making 12 barrels of oil per hour from Rosiclare.

George and Wrather's Tivnen 1, NW C of 26-13n-7e, appeared a possible pool extension as oil content increased following a shot in Rosiclare sand, and operators swabbed off water.

Cascade Refining Company's Rand 1, SE SW SE 11-2n-7e, showed for one of the best producers in the pool, when it swabbed and flowed 30 barrels of oil per hour natural from Rosiclare sand. After a shot the well showed for possibly 1500 barrels daily.

Newest and most closely watched wildcat test in the Mattoon area is Thomas L. Smith's Bresee 1, NW NE NW 23-11n-7e, approximately ½ mile south and slightly east of Victor Scheef's Bresee 1, which extended the pool 2 miles south a few weeks ago. The well is drilling below surface casing.

Offers of State Lands By Louisiana Board

Louisiana's Mineral Board will take bids February 21 for the leasing of 10 tracts of state or school board land, totaling more than 14,000 acres. All bids must include a cash bonus for a lease having a primary term of three years, must offer minimum royalty of ⅛ of oil and gas saved, and must agree to drill within one year or pay rental to defer drilling up to three years.

☆ California

Oceanic Sand Production Gets Extension from Cymric Well

Cymric well extends Oceanic sand production 4000 feet southeast; Kern River field's deep prospect hole is wet, but still has showings in Vedder to test; Shell places 14,950-foot well at Long Beach on gas lift, but chances of commercial producer appear slim; Richfield suspends Bandini wildcat.

Evidence that deep sand development in the Cymric field may produce more oil than expected was presented when Standard Oil Company of California ran tests in Weston 33, 26-29s-21e. The well found the top of the Oceanic sand at 4939 feet. A test of the ensuing interval between 4939-58 feet produced clean oil at a 3000-barrel rate. On a subsequent test of sand between 4938-5017 feet the well produced at a 1000-barrel rate through a ½-inch choke with tester open 13 minutes. Discovery extends Oceanic sand production 4000 feet southeast. Operator was preparing to run casing and complete.

To the northwest in the same field, Independent Exploration Company's Oceanic 2 in Sect. 22 is coring below 4898 feet in oil sand. The Oceanic sand was topped at 4832 feet. The Superior Oil Company's Woody 1, also in Sect. 22, has been cored to 4629 feet and liner run for a test of the Point of Rocks sand.

Tide Water Associated Oil Company's deep test of the Kern River field, Luck 154 in 30-28s-28e, is undergoing formation tests. Total is 5998 feet. Sands of Eocene age between 5744-50 feet tested wet. Operator is now moving out heavy equipment and will use a portable outfit for further tests up hole of Vedder sand showings.

Shell has abandoned its second wildcat try in the Dagany Gap area. University of California 2 in 3-25s-18e encountered no shows of sufficient importance to test and drilling was stopped at 1501 feet.

Independent Exploration's McVan wildcat, Lamber Lands 2 in 35-26s-27e, found the Vedder barren and is scheduled for early abandonment. Total depth is 2945 feet, with top Vedder logged at 2913 feet.

Continued testing of Miocene sands in Bandini Petroleum Corporation's Bacon Hills wildcat, Bacon 1, 3 miles west of the South Belridge field, has been negative. Swab brought up sulphur water on tests through perforations at 10,830 feet. Work is continuing.

Kings County: A conclusive test of the Corcoran area in 24-20s-22e is planned by Four Star Oil Company, which has spudded Corcoran-Irrigation 1 and is now drilling below 1200 feet with Eocene sands the objective.

Standard of California continues fishing for drill pipe in its Kettleman Hills Middle Dome Eocene test with top of the fish at 8900 feet. Total depth is 9927 feet.

Yolo County: Field reports of a 5 million cubic foot gas blow in The Texas Company's Hermle 1 wildcat in 22-11n-1w, Dunnigan Hills area, are unconfirmed by the operator. Total depth is 2570 feet.

Los Angeles County: Superior's test of the productive possibilities of fractured Schist in the Torrance field, Torrance 66, is spot coring below 5700 feet. Well is a "no-dope" hole but is expected to reach objective in the next 800 feet.

Shell has placed its Long Beach deep test, Alamitos 48-A, on gas lift for 27 barrels of 26-gravity oil, all circulating oil, cut 34 percent. If Shell could make a commercial producer out of this well it would be the world's deepest producer. Total depth is 14,950 feet.

Del Sur Oil Company has installed Christmas tree and is preparing to swab its Palmdale wildcat, Del Sur 1 in 26-7n-13w. Three hundred and forty feet of 100-mesh perforated has been landed on bottom at 2760 feet.

Richfield Oil Corporation has suspended operations in its second test of the Bandini area, Simons 1 in 15-2s-12w. Well entered the Miocene at 7522 feet and drilling was stopped at 8024 feet. Operator was preparing to resume tests of its original well in the area, Union Pacific Unit 1, which produced 1000 barrels on test several weeks ago, but with a large cut of water which could not be eliminated. In the same area Chanslor-Canfield Midway Oil Company's Bandini 1 is coring below 8740 feet.

Oregon

Texas' Cooper Mountain wildcat, Cooper Mountain 1, 15 miles west of Portland, is drilling below 4470 feet.

Washington

Standard of California's Whatcom County wildcat, Ferndale Community 11-61-5, is coring below 2580 feet.

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☆ Rocky Mountain Area

Continental Scores Important Extension in Rangely Field

Important Rangely field extension registered by Continental; Wyoming deep test nears record for region; Canadians acquire choice acreage on Cat Creek anticline in Montana.

Colorado

Continental Oil Company's Rooth 1, NW SW 15-2n-103w, provided a major extension for the Rangely field in Rio Blanco County near the Utah line. The outpost is 1½ miles from production and extends the productive area northwest. Continental holds an enormous acreage on what formerly was considered the rim of the Rangely pool. So far there has been no dry hole to define the productive area, and approximately 20 wells now are drilling with nearly 50 already completed as flowing wells, each producing through chokes between 300 and 500 barrels of oil daily.

Montana

Central Montana's revitalized Cat Creek oil field has attracted Canadian interests who recently acquired $100,000 worth of leases in the Mosby Dome section of the Cat Creek anticline. This area continues to be the scene of spirited wildcatting to define the limits of the productive zone. British Dominion Oil & Development Company is the purchaser, acquiring the strategically located Charles lease in Sects. 20 and 21, 15n-30e, adjoining the 40-acre tract on which Spencer & Livingston's well is flowing 600 barrels daily. In addition, the purchase includes 560 acres elsewhere on the Mosby Dome along the Cat Creek anticline, plus a ½ interest in 3 wells to be drilled on the tracts. The wells will be drilled at once by Newell & Chandler, Alberta drilling contractors, now moving in light rotary tools. First location announced is on the Charles tract, ¼ mile west of the Spencer & Livingston well. The other party to the purchase is the newly-organized Central Montana Oil Company, with offices at Winnett.

Wyoming

With less than 600 feet to go to break the record as the deepest well drilled in the Rocky Mountain region, the Mountain Fuel Supply Company's Unit 1, in the Church Butte area of Uinta County, is drilling below 12,100 feet. The record depth is held by The Texas Company-The California Company's deep test in the Wilson Creek oil field, Rio Blanco County, Colorado. This well, now bottomed at 12,702 feet, is being tested in the Weber apparently without success and probably will be plugged back and completed in the Madison as a gas injection well.

Employe-Training Center Planned by Socony-Vacuum

A center at 63 Park Row, New York, for the training of company personnel is planned by Socony-Vacuum Oil Company.

Covering 6000 square feet of floor space, the training center will consist of an auditorium, exhibit room, lounge, office, storage spaces and cloak room. The entire space will be air conditioned.

The auditorium will be 58 feet long and 30 feet wide with a seating capacity of 180.

The exhibit room, 50 feet long and 28 feet wide, will be near the Park Row entrance and will be open to the public. Varied displays of educational nature, as well as hundreds of products manufactured and sold by Socony-Vacuum, will be on display in this room.

The Socony-Vacuum training plan, established in 1919, provides company employes with the knowledge needed in their work. Classes, lasting from one to six weeks, are conducted throughout the year. The men who attend these classes are brought from all parts of the world for training in the Socony-Vacuum methods of operation.

Secondary Recovery Session Attended by 100 Operators

Stripper well operators in Eastern Kansas and Oklahoma met at Chanute, Kans., to discuss secondary recovery problems, exchange data designed to improve known methods, and to interest other oil men in further secondary recovery development where such areas warrant this type operation. Approximately 100 operators attended the meeting which was called by Marion Stekoll, independent operator of Independence, Kans. M. R. Taliaferro, petroleum engineer with the U. S. Bureau of Mines at Bartlesville, Okla., took part in the discussion, receiving and answering questions on channeling, bypassing and breakthrough in water flooding.

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EXPLORATORY COMPLETIONS

ARKANSAS OUTPOSTS

Columbia County—Atlanta Failure: Harry Bass Dr. Co.'s W. D. Baker 1, c sw sw 12-18s-20w, 1 mi nw fld prod, Cotton Valley 6130 ft, Smackover 8358 ft, porosity with salt wtr, abnd 8368 ft.

Lafayette County—Patton Extension: Mid-Contnient's O. S. Moore 1, c se nw 33-17s-24w, ¾ mi Patton fld, porosity 9273 ft, perf 22 shots 9316-19 feet, flow 190 bbls in 9 hrs, 12/64-in, cp 1600 lbs, tp 1450 lbs, gor 970/1, td 9321 ft.

CALIFORNIA WILDCATS

Kern County—Failure: Shell's University of Calif. 2, 3-25s-18e, Dagany Gap area, abnd 1501 feet.

Madera County—Failure: Union Oil Co.'s Gamble 7, 15-9s-16e, Chowchilla area, abnd Granite 3085 feet.

FLORIDA WILDCAT

Highlands County—Failure: Humble's G. C. Carlton Estate 1, c sw ne 34-38s-29e, abnd 12,985 ft.

ILLINOIS WILDCATS

Clay County—Failure: Nat'l Assoc. Pet. Co.'s Williams 1, sw ne se 33-5n-5e, abnd 2655 ft.

Clinton County—Failures: B. F. Thompson's Reeves 1, ne nw ne 17-1n-1w, abnd 1466 ft.

J. H. Fedlet's Freund 1, ne sw ne 30-2n-1w, abnd 1431 ft.

Coles County—Failures: Tom L. Smith's Dole 1, se ne sw 7-11n-7e, abnd 2362 ft.

Henry M. Gray's Dornblaser 1, nw sw sw 24-11n-7e, abnd 2132 ft.

C. L. Withers' McDivitt 1, se ne ne 15-12n-10e, abnd 1185 ft.

J. A. Mathews' Howland 1, se ne nw 12-13n-7e, abnd 1937 ft.

Cumberland County—Failure: W. W. Shaffer's Leach 1, sw nw ne 25-9n-8e, abnd 2733 ft.

Edwards County—Failures: Fred A. Noah's Collyer 1, ne ne sw 20-2s-10e, abnd 3350 ft.

Hagemann & Ponds' Harris 1, nw nw nw 21-1n-10e, abnd 3398 ft.

Hamilton County—Failure: Nat'l Assoc. Pet. Co.'s Stephens 1, ne ne se 21-5s-7e, abnd 3555 ft.

Madison County—Failure: E. A. Obering et al's Steiner 1, se nw se 14-4n-5w, abnd 2903 ft.

Perry County—Failure: Texas Co.'s Schwinb 1, sw sw sw 5-4s-1w, abnd 1646 ft.

Richland County — Failure: B. A. Baker's Pritschle 1, ne nw sw 25-3n-10e, abnd 3300 ft.

Shelby County—Failures: Skelly's Chestman 1, sw se ne 7-9n-3e, abnd 2043 ft.

W. W. Shaffer et al's Dapport 1, sw sw sw 2-9n-5e, abnd 2232 ft.

St. Clair County—Failure: A. J. Walker's Mareck-Thorp Cons. 1, nw ne sw 11-2n-6w, abnd 2462 ft.

Wabash County—Failure: Clarence Wood et al's Raber 1, se se se 7-2s-13w, abnd 2868 ft.

Wayne County — Failures: J. J. Lynn's Smith 1, n½ sw ne 21-1s-7e, abnd 3323 ft.

E. J. Davis' Winter 1, ne ne nw 26-2s-9e, abnd 3377 ft.

White County—Failures: J. J. Lynn's Ebarhardt 1, e½ ne ne 12-5s-8e, abnd 3373 ft.

Central P. L. et al's Bailey 1, nw nw ne 25-5s-8e, abnd 3323 ft.

Nat'l Assoc. Pet.'s Hannah 1, ne ne nw 28-5s-10e, abnd 3192 ft.

Clay County—Oil Discovery: W. W. Shaffer et al's Wood 1, se sw se 21-5n-6e, McCl 2797-2803 ft, pump 8 bbls, td 2806 ft.

Effingham County—Failure: F. J. Mitchell's Ruholl 1, sw sw se 25-9n-6e, abnd 2478 ft.

Macoupin County — Failure: J. O. Gill's Hodges 1, ne ne sw 5-9n-7w, temp abnd 700 ft.

Marion County—Discovery: Tex Harvey Oil Co.'s Kagy 11, (OWDD) 33-3n-2e, Dev 3600 ft, pump 65 bbls oil day, otd 3539 ft, td 4900 ft.

Moultrie County—Failure: T. Blake Dirickson's Munson 1, nw sw sw 32-12n-6e, abnd 2227 ft.

Shelby County—Failure: Garman & Belden's Gernenz 1, sw sw nw 9-9n-5e, abnd 2156 ft.

Wayne County—Failure: Nu-Enamel Corp.'s Grubb 1, se ne se 21-1s-7e, abnd 3325 ft.

INDIANA WILDCATS

Gibson County — Failure: Grace Hulman's Wilburn Est. 1, nw se se 29-1s-11w, abnd 2312 ft.

Joseph County — Failure: M. C. Pletcher's Weiss 1, se sw sw 27-37n-3e, abnd 560 ft.

Wells County — Failure: W. A. Redfield's Slusher 1, sw sw sw 16-25n-10e, abnd 2270 ft.

KANSAS WILDCATS

Clark County—Failure: Helmerich & Payne's Yoeman 1, nw nw se 3-31s-21w, Arb 6375 ft, abnd 6433 ft.

Cowley County—Failure: Consol. Gas Utilities' Mendenhall 1, c nw nw 31-31s-7e, Arb 3266 ft, abnd 3270 ft.

McPherson County—Failure: Don T. Ingling's Simpson 1, nw nw ne 4-21s-1w, Miss li 2943 ft, abnd 3012 ft.

Pratt County—Failure: H. A. Hershfield's Wolf 1, ne ne sw 19-30s-11w, Arb 4896 ft, abnd 4965 ft.

Rice County—Failure: Ed Swearer et al's Ross 1, se se nw 23-19s-8w, Arb 3585 ft, abnd 3617 ft.

Sheridan County—Failure: Fred Anschultz's Webber 1, ne ne sw 21-7s-26w, abnd 4562 ft.

Stafford County—Failure: Olson Drlg. Co.'s Hart 1, sw sw ne 15-25s-15w, Arb 4498 ft, abnd 4538 ft.

KENTUCKY WILDCATS

Breckinridge County—Failure: F. Douthett's Clark 1, 8-P-35, abnd 290 ft.

Henderson County — Discovery: Fleming & Swann's Green 1, 1-O-22, McCl 2620-26 ft, pump 120 bbls, td 2628 ft.

Henderson County—Gas Discovery: Ky. Nat. Gas Corp.'s Arnett 1, 19-O-22, flow 1.5 mln fr Penn 1030 ft, td 1050 ft.

Henderson County — Oil Discovery: Ryan Oil's Crafton 1, 9-O-24, Jack 2045-47 ft, flow 30 bbls, td 2050 ft.

Union County—Oil Discovery: Joe Enberg's Blake 1, 22-P-20, McCl 2576-79 ft, pump 96 bbls, td 2579 ft.

Union County—Failure: Ashland's Moore 1, 23-P-20, abnd 2747 ft.

NORTH LOUISIANA WILDCATS

Franklin Parish — Failure: C. L. Smith's Stark 1, c se sw 26-13n-7e, Wilcox 3153 ft, Midway 4144 ft, Clayton 4688 ft, Cret 4745 ft, Tuscaloosa 5825 ft, L. Cret 6560 ft, abnd 7249 ft.

Sabine Parish — Failure: Carter Oil Co.'s Pickering Lumber Co. 1, 14-4n-11w, L. Cret 9088 ft, abnd 9495 ft.

Tensas Parish — Failure: E. C. Johnston's Sawyer 1, 8-13n-14e, abnd 7685 ft.

MISSISSIPPI WILDCATS

Jones County—Failure: Premier Oil Ref. Co.-A. W. Hutchings' J. W. McKinley 1, swc nw sw 26-9n-12w Wilcox 2101 ft, Eutaw 5934 ft Tuscaloosa 6380 ft, Massive sd 7549 ft, abnd 7706 ft.

Perry County—Failure: Stanolind's Masonite Corp. 1, sw ne 7-3n-9w, Wilcox 2328 ft, Eutaw 7347 ft, Tuscaloosa 7370 ft, Massive sd 8680 ft, abnd 9044 ft.

MONTANA WILDCAT

Yellowstone County — Failure: Farmers Union Central Exchange's Wells 1, se se nw 31-2n-28e, wtr flow 3932-4052 ft, abnd 4052 ft.

NEW MEXICO WILDCAT

Chaves County — Failure: Richfield Oil Corp.'s L. Coll-Federal 1, c nw se 18-11s-27e, elev 3673 ft, red sand 556 ft, San Andres 1140 ft, Glorietta 2265 ft, Abo 4550 ft, Pennsylvanian 5515 ft, Devonian 6240 ft, Dacite 6618 ft, abnd 6630 ft.

NEW MEXICO NEW PAY TEST

Lea County—Cooper-Jal Deep Failure: Humble's Cooper 1, (OWDD) c nw ne 23-24s-36e, elev 3352 ft, chert 5596 ft, Glorietta 6180 ft, Clear Fork 6280 ft, otd 3572 ft, abnd 7170 ft.

OKLAHOMA WILDCATS

Caddo County—Failure: J. R. Trigg's Smith 1, se se nw 19-6n-9w, abnd 6200 ft.

Carter County—Failure: Sohio Oil's Speake 1, sw se 33-2s-1w, abnd 4923 ft.

Cotton County—Failure: T. H. McCasland's No-ban-nuck 1, ne ne ne 5-3s-12w, abnd 3299 ft.

Garfield County—Failures: Skelly's Phillips 1, ne ne sw 3-20n-4w, Layton 4610 ft, abnd 4746 ft.

J. E. Trigg's Johnson 1, ne ne ne 19-24n-5w, abnd 5485 ft.

Hughes County—Oil Discovery: Bartlett et al's Howell 1, ne nw nw 10-6n-8e, pump 42 bbls, Booch 2616-32 ft, td 2632 ft.

Logan County—Failures: Harper-Turner et al's Freudenberger 1, sw se 9-17n-1w, abnd 5435 ft.

Portable Drlg.'s Dunham 1, ne ne ne 27-16n-1w, abnd 5700 ft.

McClain County — Oil Discovery: Carter's Mottinger 1, nw nw 5-6n-3w, flow 890 bbls, Bromide sd 10,812-922 ft, td 11,237 ft.

Noble County — Failure: Olson Drlg. Co.'s Smith 1, sw sw se 2-22n-2w, abnd 5238 ft.

Pawnee County—Failure: J. E. Trigg's Gilchrist 1, se sw se 5-22n-4e, abnd 4115 ft.

Seminole County—Failure: Globe O&R's Norvell Est. 1, ne sw nw 20-7n-7e, abnd 2340 ft.

Stephens County—Failure: Texas Co.'s Neal 1, sw sw sw 22-1n-4w, abnd 1175 ft.

Stephens County—Oil Discovery: Skelly et al's Chilton-Mayo Unit 1, s½ n½ nw se 14-2s-4w, pump 92 bbls, Penn sd 2915-40 ft, td 7177 ft.

WEST TEXAS WILDCATS

Crane County — Gas Discovery: Humble's Tucker 1, 660 fr sel 4620 fr nel H&TC Ry. 22, blk 1, 1½ mi n by w of McKee pool and 1½ mi s by e of Magnolia-Tucker fld, elev 2423 ft, Yates 1355 ft, San Andres 2450 ft, San Angelo 3260 ft, Clear Fork 3560 ft, base Permian 5200 ft, Simpson 5380 ft, Waddell 5700 ft, Ellenburger 6040 ft, 6.3 mln gas daily, 3.2 bbls dist hrly natural via 36/64-in, Waddell sd perf 5700-20 ft, td 6344 ft, pb 6020 ft.

Dawson County — Oil Discovery: Seaboard Oil Co.'s Lee 1, c ne ne T&P Ry. 47, blk 34, T-5-N, 23 mi se Welcher fld, nearest, elev 2905 ft, anhy 1540 ft, Yates (frosted) 2130 ft, brown li 3280 ft, San Andres 3500 ft, pump 176 bbls fluid, 5% bs, no salt water, 32.3-gr, 9000 gals acid San Andres open hole 3730-95 ft.

Pecos County — Gas Discovery: Byrd & Frost's Jackson-Sun 1, ne ne sw H&GN Ry. 46, blk 11, elev 2587 ft, 2.2 mln gas natural via 4-in gas outlet, Yates sd 1220-1308 ft (broken), td 1364 ft.

WEST CENTRAL TEXAS WILDCATS

Bell County—Failure: A. J. Maresh et al's Lawrence 1, 227 fr sel 343 fr swl 93¾-ac tr, H. Waldrip sur A-874, Edwards li 954 ft, Glen Rose 1272 ft, abnd 1400 ft.

Jones County — Failures: Eason Oil Co.'s Thomas 1, nw nw sw T&P Ry. 28, blk 15, elev 1697 ft, abnd 2443 ft.

Eltex, Ltd.'s Russell 1, 330 out swc of n 80-ac of sbdn 4, DeWitt CSL sur 125, elev 1786 ft, li 2890 ft, abnd 2920 ft.

Humble's Cranston 1, 467 ft out nec T&P Ry. 18, blk 17, elev 1744 ft, abnd 4000 ft.

H. L. Hunt's Braun 1, c sw ne BBB&C Ry. 193, elev 1531 ft, abnd 3385 ft.

Taylor County — Failure: Ungren-Frazier-West Central Dr. Co.'s Hudson 1, 330 out swc sbdn 30, DeWitt CSL sur 149, elev 1750 ft, abnd 3070 ft.

LOWER TEXAS COAST WILDCATS

Live Oak County — Failure: Smith-Story-Wood Corp.'s F. E. Pace 1, 330 fr se&swl 85.9-ac lse, E. Ramirez sur, shows of oil-cut mud, abnd 4251 ft.

San Patricio County—Failure: Himer Easterwood et al's Leola M. Cage 1, 330 fr n&el lot 2 sect 10, 160-ac lse, abnd 6508 ft.

UPPER TEXAS COAST WILDCATS

Chambers County — Failure: Standard of Tex.'s State-Galveston Bay 1, 640-ac lse, sect 103, abnd 9198 ft.

Harris County—Failure: Humble's N. Delhi Gas Unit 1, 640-ac lse, Geo. Spencer sur, abnd 7600 ft.

TEXAS PANHANDLE WILDCAT

Hartley County—Failure: Pure's Skalsky 1, 330 nsl 990 wel T. B. Russell sur, 2 mi se Hartley, elev 3900 ft, abnd 4034 ft.

TEXAS PANHANDLE NEW PAY TEST

Sherman County—Permian Gas Field Deep Failure: Phillips' H. E. Smith-Shirk 1, 2512 wel 2531 nsl T&NO Ry. 174, blk 1-T, 5 mi e Stratford, elev 3608 ft, li 2610 ft, dolomite 2800 ft, Moore Co. li 2890 ft, 750,000 gas, 2500 gals acid perf (regular pay) 2745-2928 ft, td 7014 ft, pb 2928 ft.

EAST TEXAS WILDCATS

Houston County — Failure: Fred M. Manning's Houston Co. Timber Co.-Magnolia 1, 400 fr sel 870 fr swl P. Miranda sur, elev 310 ft, Woodbine 6030 ft, Georgetown 6555 ft, abnd 6718 ft.

Red River County — Failure: Homer W. Snowden-H. C. Owen & W. C. Curry's Southern Pine Lbr. Co. 1, 2640 ewl 360 snl Samuel Pew sur, elev 429 ft, Georgetown 930 ft, Goodland 1310 ft, Paluxy 1350 ft, massive anhy 2114 ft, abnd in sand 2606 ft.

NORTH TEXAS WILDCATS

Archer County — Failure: Timberlake & Harold Kelleher's Wilson-McCrory 1, 1531 wel 750 nsl ne¼ sect 114, ATNCL sur, abnd 1505 ft.

Clay County—Failures: Standard Well Service's Ellis 1, 150 out nec w 40 ac of 100-ac tr, blk 46, Specht-McCutcheon sur, abnd 1352 ft.

H. F. Paul, J. B. Briscoe & N. A. Ferguson's Malone 1, 600 wel 1050 snl of 225-ac tr, D. E. Brannon sur A-37, abnd 1323 ft.

Montague County — Failures: Continental's Jarrell 1, 67 nsl 1400 wel sect 3433, TE&L Co. sur, elev 941 ft, Bend 5704 ft, Viola 6640 ft, Simpson 6655 ft, Ellenburger 6803 ft, abnd 7095 ft.

S. D. Johnson et al's Gibson-Jennings 1, 330 out nwc blk 77, Kaufman CSL sur, elev 799 ft, Lawler sd 2490 ft, granite wash 4350 ft, abnd 4390 ft.

S. D. Johnson et al's Rich 1, 330 fr m/e/el 330 fr m/s/nl W. S. Harkin sur A-967, elev 858 ft, Bend 5545 ft, Ellenburger 5968 ft, abnd 6033 ft.

Wilbarger County—Failure: Humble's McClintock 1, se se se H&TC Ry. 22, blk 10, elev 1355 ft, abnd 7130 ft.

NORTH TEXAS NEW PAY TEST

Archer County—Shallow Pool Deep Failure: D. H. Bolin's Thomas 15-B, 487 snl 450 ewl lot 15, Natan Thomas sur A-454, abnd 3650 ft.

WYOMING WILDCAT

Hot Springs County—Failure: Pacific Western's Gas Well 1, se 35-44n-93w, Zimmerman Butte area, abnd 1120 ft.

WILDCAT STARTS

ARKANSAS

Miller County: Texas Co.'s C. W. Persons 1, c nw se 29-16s-25w, lcn.

CALIFORNIA

Kern County: Miller and York's Reuter 1, 6-30s-29e, Edison area, rur.

Tulare County: G. B. Finch Oil Co.'s No. 1, 7-24s-23e, Trico area, grade.

Fresno County: Norris Stamping & Mfg. Co.'s Cross 1, 36-16s-16e, Helm area, lcn.

Solano County: Standard of Calif.'s Calif. Packing Corp. 5, 24-5n-2e, Cache Slough area, dr.

Los Angeles County: Lehr Co.'s Lehr 2, 33-8n-8w, Hi Vista area, dr.

Ohio Oil Co.'s Gardena Community Four 1, 23-3s-14w, Gardena area, foundation.

COLORADO

Rio Blanco County: John Brorby et al's No. 1, c lot 8, 33-2n-101w, Rangely area, lcn.

FLORIDA

Gilchrist County—Sun's Alto Adams 1, swc 15-9s-15e, lcn.

Liberty County—Pure's Neal Lbr. Co. 1, nwc 33-2s-8w, lcn.

ILLINOIS

Fayette County: Oris Eakin's Eakin 1, nw sw se 8-5n-1w, lcn.

E. J. Cunningham's Lansford 1, se sw sw 18-5n-3e, lcn.

Hamilton County: Nat'l. Assoc. Pet. Co.'s Neel 1, nw ne se 32-5s-7e, lcn.

Marion County: S. H. Leavitt's McGill 1, sw sw nw 4-2n-4e, lcn.

Wabash County: Fred Heldt's Smith 1, sw nw sw 12-1n-13w, lcn.

Wayne County: F. R. Beasley's Ellis 1, se se sw 21-2s-7e, lcn.

Clay County: J. J. Lynn's Hunley 1, se se nw 35-3n-7e, lcn.

W. W. Shaffer's Staats 1, se se se 23-5n-7e, dr.

Coles County: Nation Oil Co.'s Elliott 1, ne ne sw 27-12n-8e, dr.

C. L. Withers' McDivitt 1, se ne ne 15-12n-10e, dr.

George & Wrather's Tivnen 1, nw sw sw 26-13n-7e, dr.

Tommie F. Concannon's Cochran 1, ne ne se 23-13n-9e, dr.

D. F. Wright's Taylor 1, ne ne ne 33-14n-10e, dr.

Effingham County: F. J. Mitchell's Ruholl 1, sw sw se 25-9n-6e, dr.

Jasper County: John Washburn et al's Baker 2, e½ nw se 30-6n-10e, lcn.

Jefferson County: E. S. Adkins' Green 1, nw sw sw 8-3s-1e, lcn.

Shelby County: T. Blake Dirickson et al's Hazen 1, nw sw sw 12-11n-4e, lcn.

T. Blake Dirickson's Munson 1, nw sw sw 32-12n-6e, dr.

Washington County: W. F. Lacy's Randensmeyer 1, sw se ne 10-1s-2w, dr.

Wayne County: J. J. Lynn's Ellis 1, se se nw 34-1s-8e, lcn.

White County: Sun's Okerson 1, nw sw ne 9-7s-8e, lcn.

INDIANA

Joseph County: M. C. Pletcher's Weiss 1, 27-37n-3e, lcn.

Knox County: J. C. Haynes' Warnock 1, ne ne se 6-2s-10w, lcn.

Perry County: R. F. Brown's Barekman 1-A, sw se se 15-3s-3w, lcn.

Posey County: Fox & Fox's Audry 1, 10-4s-14w lcn, se se se.

Spencer County: H. L. Lambert's Jolly 1, 31-6s-7w, lcn.

KANSAS

Barton County: Jones & Shelbourne's Aetken 1, nw nw ne 28-19s-15w, rig.

Russell County: Bridgeport's Kaufman 1-B, ne ne nw 19-15s-12w, rur.

Stafford County: H. A. Hereshfield et al's Shirk 1, se se ne 35-24s-14w, lcn.

KENTUCKY

Breckinridge County: F. Douthett's Clark 1, 8-P-35, comp.

Davis County: M. Collis et al's Smith 1, 14-P-29, dr.

Muhlenberg County: B. Hackbush's Yunkers-Eads 1, 10-J-28, dr.

B. Hackbush's Yunkers 3, 17-J-29, dr.

B. Hackbush's Yunkers 2, 15-J-30, lcn.

Union County: Delta Drlg.'s Drury 1, 19-P-20, dr.

Henderson County: Major Washburn's Blair 1, 11-N-24, dr.

Arthur Mack et al's Myers 2, 3-P-26, dr.

O. Blankenburg et al's Vogel 1, 12-P-23, lcn.

NORTH LOUISIANA

Richland Parish: F. L. Bryant-R. J. Caraway's Scott Harrell 1, c sw nw nw 26-16n-7w, Paluxy test.

MISSISSIPPI

Holmes County—I. P. Larue's J. A. Weeks 1, nwc se ne 20-15n-5e, rds.

Yalobusha County—J. S. Henderson's Stone 1, ne sw 21-24n-6e, lcn.

MONTANA

Petroleum County: Bill Hanlon's Northern Pacific 1, se se ne 1-14n-30e, E. Dome Cat Creek anticline, rurt.

Bill Hanlon's Government 1, ne ne sw 6-14n-31e, E. Dome Cat Creek anticline rurt.

Continental's Brown 11, se sw se 17-15n-30e, ¼ mi west Brown 10 (erroneously reported as 7), lcn.

NEW MEXICO

Lea County: Culbertson & Irwin's State 1-D, 3262 snl 660 ewl 4-21s-34e, 4000-ft Yates sand test.

OKLAHOMA

Garvin County: R. H. Dearing & Son's McBride 1, ne nw nw 30-4n-2w, lcn.

Harper County: Continental et al's Howard 1, sw sw se 15-27n-21w, lcn.

Logan County: Eugene Jordan's Dean 1, nw nw ne 7-15n-1w, rig.

Okfuskee County: Brown et al's Khea 1, nw ne sw 14-10n-9e, rig.

George C. Vincent's Musgrave 2, ne se 17-12n-11e, lcn.

Oklahoma County: Peppers Ref. Co.'s Moyer 1, nw nw ne 3-14n-2w, rig.

Payne County: British American's Gibson 1, nw se sw 8-17n-2e, lcn.

WEST TEXAS

Andrews County: Humble's J. G. Gains 1, c ne ne PSL 14, blk A-38, 10,500-ft Ellenburger test.

Crane County: Humble's G. H. Cowden 2-A, c sw ne sect 20, blk X, CCSD&RGNG sur, Ellenburger test.

Sterling County: Humble's Harris Ranch Co. 1, c se nw H&TC Ry. 114, blk 6, 4¾ mi sw of 8486-ft Ellenburger failure, 9500-ft Ellenburger test.

WEST CENTRAL TEXAS

Concho County: Eltex, Ltd.'s P. C. Roberts 1, 304 snl 253 wel T&NO Ry. 147, blk 72, 5 mi n by e of Eden oil pool, Ellenburger test.

SOUTHWEST TEXAS

Duval County: Rowan & Hope's Duwel Co. 1, 330 sw of nel 940 se of nwl J. Poitevent sur 549 and 240-ac lse, 2600-ft test.

Jim Hogg County: R. E. Fair's San Juana Gracia 1, 1700 e 2756.5 s of nwc sh 25 1700 fr n&wl 808-ac lse, Jose Marcelo Ynojosa sur, 5500-ft test.

LOWER TEXAS COAST

Live Oak County: H. E. Dirks et al's Frank E. Bliss 1, 467 fr ne&sel 530-ac lse and H&GN sur, 4500-ft test.

H. E. Dirks et al's Mrs. E. T. Turner 1, 467 s se at ra fr nwly/l 103-7-ac lse, B. B. Atkins sur, 4500-ft test.

Willacy County: Dan Auld's Dan Auld-Harvey Geis et ux 1, 660 s of nl 660 w of el of 97.8-ac lse, Hardin Gill sbdn sh 13, 9000-ft test.

UPPER TEXAS COAST

Ft. Bend County: Stewarts Co. et al's A. P. George 1, 4498 fr sel 3210 fr swl 2046-ac tr and A. D. Kulker sur, 4000 w nw Superior of Okla.'s abnd George 1, Smithers Lke area, mim 8500-ft test.

Jefferson County: Sun's Tex. Public Service Farms Co. 1, 660 fr n&el 748-ac tr and J. W. Kirby sur, S. Nome prospect, spud 2950-ft test.

Matagorda County: Skelly's Gregg Lawrence 1, 466 fr nwl 227.3-ac tr and P. Burnett & A. S. Sojourner sur, 466 fr swl of tr, 3500 n&w Sup. & Blaffer's Perterson 1 disc, Sugar Valley area, 10,000-ft test.

Sun's R. B. Trull 1, 660 fr n&wl 160-ac tr, I&GN sur, blk 6, 2087 e ne Strnadel 1 disc, bldg, 9200-ft test.

Texas Co.'s State of Tex. 1, 150 fr s&wl sect 390 N, Matagorda Bay, 160-ac lse, Carancahua area, 10,000-ft test.

Tyler County: Erwin Millner Acct.'s S. H. Reid 1, 700 fr el 500 fr sl 160-ac tr, Emily Sanderson sur, Hillister area, 8000-ft test.

EAST TEXAS

Hill County: F. M. Crockett et al's R. L. Cartwright 1, 940 fr swl 340 fr sel 1164-ac tr, 6900 fr nwl 940 fr swl of E. Hart sur, Austin chalk 276-575, sd 607 ft.

Kaufman County: E. Fred Herschbach et al's G. D. Allen 1, 50 fr nel 100 fr sel of 1-ac lse and blk 71, Kemp twnsite, J. S. Abels sur, lcn.

Rusk County: John R. Bunn et al's W. J. Weatherby 1, 780 fr m/s/sl 1500 ewl of (Stricker Creek) 234-ac lse, or 5300 wel 6300 nsl of Wade H. Walters sur, Woodbine test, dr 2720 ft.

Wood County: Delta Drlg. Co. et al's J. B. White 1, 330 out swc of s 40 ac of tr, or 330 nsl 2800 fr m/s/wl of J. Stark sur A-537, 5½ mi ne Quitman, rur for Woodbine test.

NORTH TEXAS

Archer County: Bridwell Oil Co.'s W. P. Ferguson 2, 1050 out sec blk 9, P. McKim sur, 2000-ft test.

McMahon, Kelleher & McMahon's Mrs. J. H. Turbeville 1, 150 wel 2370 nsl blk 124, C. A. Frazier & T. D. Clark sur, 1550-ft rotary test.

Wayne King et al's Bill Threet 1, 6000 out of nec blk 104, Jefferson CSL sur, 1200-ft test.

Cooke County: Harry B. Kahn et al's Franklin Hrs. 1, 2310 nsl 900 ewl of A. Rodriquez sur A-851, 3500-ft Ellenburger test.

B. B. Orr et al's C. J. Fette 1, 330 ewl 468 nsl of 196-ac tr, or 468 nsl 5100 wel of D. H. Campbell sur A-196, 1800-ft test.

Haskell County: Fred M. Manning's Mrs. Nora Carrigan 1, 1967 n 330 w of nec of A. Jones sur, but in S. C. Robertson sur 40, 3300-ft Palo Pinto test.

King County: Superior's Pitchfork Land & Cattle Co. 2, sw sw se sect 171, J. H. Gibson sur, 7500-ft test.

Throckmorton County: Martin Properties' J. B. Mathews 1, 150 ewl 1686 nsl of n 93 ac, blk 29, M. V. Cummings-Comanche sur A-1419, lcn.

Wichita County: Akin-Dimock et al's Roy E. Gibson 2, 200 snl 600 wel blk 271, Waggoner Colony Lands, 2000-ft test.

W. O. Ferguson et al's W. B. Honaker 1, 300 snl 750 ewl of R. Meade sur A-185, 1875-ft test.

Young County: Davis Investment Co.'s G. C. Kindley 1, 330 nsl 1400 ewl sect 471, TE&L Co. sur, 5000-ft Ellenburger test.

Lease Lost in Bayou . . Or Is It in Bay?

Ten years ago, a clerk in the Louisiana Conservation Department used either poor carbon paper or poor typing technique in preparing a lease advertisement—and this month The Texas Company lost back to the state a lease the company had assumed it had held for a decade. Hackberry Bay, known locally as "Bay Dechene" is the locale.

Originally, Attorney General Fred LeBlanc claimed, lease advertisements were written to include "Bayou Dechene." Later it was determined that "Bay Dechene" was meant, so the "ou" in "bayou" was ordered x'd out. But in carbon copies that went to some newspapers the "x's" were not effective, so some printed ads read "Bayou Dechene." Records show that in 1938 Governor R. W. Leche amended the lease to read "bay" instead of "bayou," but it is claimed he had no such authority.

At any rate the 19th District Court in Baton Rouge has ruled that the "bay" was free of any lease.

Geologists Undertake Plan Of Intensive Group Study

Study groups have been organized for 1946 by the Houston Geological Society and will take up such subjects as well logging, stratigraphic and structural distribution of coastal reservoirs and evaluation of oil and gas properties. E. F. Stratton of Schlumberger Well Surveying Corporation and John L. P. Campbell of Lane-Wells Company are among the first speakers to appear before the sub-groups.

According to Hillard W. Carey, secretary of the Houston society, the group study procedure conforms with the contemplated program of AAPG which is to contribute funds and organize various research committees in collaboration with government plans for conducting research in various sciences.

Ray C. Lewis, Houston Oil Company, is chairman of the Houston study setup.

The OIL WEEKLY'S TRADING POST

USED EQUIPMENT FORUM

CLASSIFIED ADS . . . EQUIPMENT . . . SERVICES . . . PERSONNEL

FOR SALE **FOR SALE**

STORAGE TANKS — IMMEDIATE DELIVERY

New 1,000 bbl. bolted tanks crated—size 8′ 1½″ x 29′ diameter—10 gauge throughout. Complete with all gaskets, fittings and tools for erection. Call, wire or write for delivered prices.

2—55,000 bbl. riveted steel storage tanks.

1—80,000 bbl. welded steel storage tank, good condition, located near Kilgore, Texas.

REFINERY EQUIPMENT, Inc.

P. O. Box 1709 **Tulsa, Oklahoma** **L. D. 410**

■ DRILLING EQUIPMENT: National No. 2 machine, Star No. 28. Standard outfit with 80′ steel derrick, cable tools for shallow and deep drilling, Fishing tools, boilers, engines. S. W. Pressey, Pueblo, Colorado.

■ FOR SALE: One used Clark 12½″ x 14″ Super Two Cycle 150 H.P. 2 Cylinder 300 RPM Angle Gas Compressor Engine Type RA-2S direct connected to 2—7″ x 14″ U.T.L. Compressor Cylinders and two extra 12″ x 14″ Compressor Cylinders. Box 376, Bradford, Pa.

■ FOR SALE: No. 3 National Drilling Machine, steel mast and steel sills—145 H.P. Hercules Diesel Drilling motor with Young reverse clutch — motor rebuilt — new sleeves, pistons, bearings, rebuilt crank shaft. A-1 condition. Price $5,000. CARPER DRILLING COMPANY, ARTESIA, NEW MEXICO.

■ FOR SALE: No. 2 All Steel National Drilling Machine with Calf Wheels. O. H. Pouppirt, Box 207, Cody, Wyoming.

■ FOR SALE: 3850′—4½″ API, FH Drill Pipe with Hughes Counterbore Tool Joints.
3700′—4½″ API, FH Drill Pipe with National Shrink Thread Tool Joints.
2190′—3½″ Internal Flush Drill Pipe with Hughes Modified Counterbore Tool Joints.
1380′—3½″ Internal Upset Drill Pipe with National Shrink Thread Tool Joints.
3750′—3½″ API, FH Drill Pipe with National Shrink Thread Tool Joints.
2040′—3½″ API, FH Drill Pipe with National Shrink Thread Tool Joints.
1—6 SRK Waukesha Engine completely reconditioned.
1—Beam Type, All Steel Drilling in Unit with "A" Type Mast and Buda Engine, plus miscellaneous tools, Wire lines, sand line and equipment. Veeder Supply & Development Company, Cherryvale, Kansas.

FOR SALE
V8 LeROY ENGINE MODEL RXIV

Complete with steel skids, steel engine house enclosure, heavy duty twin disc with clutch with V-belt pulley, starting engine, and butane equipped. Engine has recently been overhauled, including new pistons and all new bearings. Price is $3,750.00 and is subject to prior sale. **E. B. Clark Drilling Company,** 612 City National Building, Wichita Falls, Texas, Telephone 9466.

FOR SALE

50— 500 Barrels
10— 1,000 Barrels
20— 5,000 Barrels
4—10,000 Barrels

Heavy A.P.I. New closed bolted type steel tanks now located at Ogden, Utah. Can quote reasonable prices in order to move from present premises at once.

JOS. GREENSPON'S SON PIPE CORP. National Stock Yards, St. Clair County, Ill.

FOR SALE

Available Immediately—Located in New Mexico: 4—112 H.P. 150# W.P. Collins Water Tube Portable Boiler, 13 Section—14 Tubes per Section—1120 Square Feet Heating Surface—Weight Approximately 2500#.

Box 89, Houston, Texas.

Pasture Grass Seed for Ranchers and Farmers in the Southwest

DOUGLAS W. KING CO.

—Pasture Grass Seed Specialists—
San Antonio 6, Texas

WANTED TO BUY

■ WANTED: Producing properties netting from $8,000.00 a month up. W. K. Mann, Osage Hotel, Arkansas City, Kansas.

■ WANTED: 45 Star Drilling Machine in good condition. With or without tools. Contact P. O. Box 444, Sedan, Kansas, giving location and description of equipment.

■ WANTED: Lease for drilling. Illinois or Indiana. Close in or block with good geology. Address: Advertiser, 537 S. Spring St., Evansville, Indiana.

HELP WANTED

■ Experienced seismograph computers, draftsmen, operators, engineers, shooters, helpers, for new organization, Texas-Oklahoma area. Opportunity for advancement in anticipated expansion. Give age, education, detailed complete experience, references. Box 1641, Dallas, Texas.

■ WANTED: Observers, engineers, shooters, and computers, for domestic seismograph work. Good future, permanent employment for those qualified. Address: Box 87, c/o The Oil Weekly, Houston, Texas.

AREA SUPERINTENDENT—Graduate Petroleum Engineer. Administrative background and complete experience exploratory wells. Location Eastern Venezuela. Experienced in foreign countries and knowledge of Spanish preferred. Write giving full particulars of education & experience.

THE ATLANTIC REFINING CO.
(Room 900) P. O. Box 7258,
Philadelphia, 1, Pa.

PETROLEUM ENGINEER

For Eastern Venezuela. Graduate with 3 to 5 years experience. Single status. Write

ATLANTIC REFINING COMPANY
(Rm. 900) Box 7258,
Philadelphia 1, Pennsylvania.

HELP WANTED

OILFIELD EQUIPMENT SALESMEN

Long established manufacturer of Oilfield, Drilling and Producing equipment requires one well qualified salesman.

Applicant should have 3 to 5 years experience in oilfield selling. Technical education desirable but not necessarily essential. Must be aggressive and willing to travel. Location Southwest.

All applications acknowledged and held in confidence. Interviews will be arranged for those who qualify, expenses paid. Good salary with opportunity for substantial bonus. Field expenses allowed and car furnished or salesman may use own car on mileage allowance basis.

Give full record of previous employment and references. Enclose small photograph.

Address: Box 92, c/o The Oil Weekly, Houston, Texas.

SITUATIONS WANTED

■ Position wanted with active, independent operator, established broker or royalty buying company. Experience — field production, scouting, leasing and title work. Now employed in land department major oil company. Object—to improve position. Address: Box 90, c/o The Oil Weekly, Houston, Texas.

■ Experienced cable tool and rotary man, some production, fifteen years in oil fields, five years with service company, college education, thirty-five years old, now employed, desires job with future. References. Address: Box 91, c/o The Oil Weekly, Houston, Texas.

NOTICES

■ MONEY TO PURCHASE oil loans, oil payments and oil royalties in Texas, Oklahoma and New Mexico. Baptist Foundation of Texas, 201-03 Baptist Building, Dallas 1, Texas.

■ Manufacturers Agent, Gulf Coast area desires one additional account. Address: Box 88, c/o The Oil Weekly, Houston, Texas.

CUBA. JARAHUECA. If Interested in Shallow Production Don't Overlook This Opportunity. Field producing now 600,000 gals. crude monthly. Selling price $0.12 gal. We own 250,000 acres. Will lease lots from 1000 to 10,000 acres $0.40 per acre per year plus 1/32 royalty. Cost of cable tool drilling averages $1.00 ft. Paying horizon from 400 to 1800 ft. CUBAN OIL ENTERPRISES. 574 Aguiar St., Havana, Cuba.

SERVICES

RENTAL TOOLS

■ We have everything in Rotary Equipment for Rent including complete Power Rigs.
10,000 ft. 2½″ External Upset, Internal Flush Drill Pipe.
8,500 ft. 2½″ Regular Acme Range 1 Drill Pipe.
18,000 ft. 3½″ External Upset, Internal Flush Drill Pipe.
2½″, 3½″ 4½″ & 6″ Kellys, Drill Collars, Swivels, Rotary Tables, Power Pumps, Crowns, Traveling Blocks, Hooks, Drilling In Tools, & Blowout Equipment.
Address: **Phil A. Cornell,** 1331 S. E. 29th St. Capitol Hill Station, Oklahoma City, Oklahoma.

SQUEAKS from the BULL WHEEL

Modern Mother Goose

Mary has a little swing,
It isn't hard to find;
Everywhere that Mary goes
The swing is right behind.

Men Are So Deceiving

"John, dear, I wouldn't let anyone else kiss me like this."

"I know that, darling—and, by the way, my name isn't John."

This Curious World

They laughed when I sat down at the piano, but when the little blonde gave me the key to A flat—how I accompanied her!

She's as pretty as a picture—with a frame to match.

You've probably heard of the fellow who started on a shoestring and worked his way up until he got his face slapped.

Men aren't what they used to be. Women used to touch them by crying. Now they scare them by swearing.

The trouble with marriage is that a fellow can't support a wife and the government on one income.

Hostile Country

When they totaled up the ballots cast in the sheriff's race it was found that one candidate got 3555 votes and the other received 11.

Next day the defeated candidate walked down Main Street with two huge six-shooters hanging from his belt.

"Look here," protested a friend. "You weren't elected. You've no right to carry guns."

"Listen, pardner, a man who ain't got no more friends than I've got in this country, needs to carry guns!"

One-Woman Man

"How come you go around with such an ugly girl all the time?"

"She's different from other girls."

"How so?"

"She's the only girl who'll go out with me."

GLOBAL AIR TRAVEL TO IMPROVE OIL WEEKLY

for you

From August to December staff editors of The OIL WEEKLY hit the air for 54,000 miles across oceans and continents . . . to get "on location" material first hand . . . to edit the paper from the field. Significant is the fact that in this period paid foreign subscriptions increased 45%. Product improvement, yes. Better yet, recognition of the improvement.

Insult

"Have you ever awakened with a jerk?"

"Certainly not. I'm not even married."

Too Good to Be True

Rastus was dead. A wonderful funeral was in progress. The preacher talked at length of the good traits of the deceased brother, what an honest man he was, what a good provider for his family, what a loving husband and kind father.

At length the widow whispered to one of her offsprings: "Go up dere and take a look in de coffin and see if dat's yore pa."

Less Weary for Willie

"Are you really content to spend your life walking about the country and begging from door to door?"

"No, lady. Many's the time I wished I had a car."

Giving His All

Elmer, whose sole means of support was his rich father, was being married. Finally he repeated, "With all my worldly goods I thee endow."

"Heavens," said his father, "there goes his toothbrush."

Beauty Secret

"Your wife seems to have a strange look on her face lately."

"Yeah, she's trying to resemble her latest photograph."

All Got Stewed

Cannibal: "Am I late for dinner?"
Ditto: "Yes, everybody's eaten."

Forward March

"Sometimes my father takes things apart to see why they don't go."

"So what?"

"So you'd better go."

Spirited Comeback

A member, delinquent in his dues, sidled up to the bar at the Elks Club and stated bodly: "'I'm thirsty and I want a drink."

"Drink milk," was the unkind response. "It's good for the blood."

"Yeah, but I ain't bloodthirsty."

Celestial Pay-Go

"Brothahs an' sistahs," intoned the visiting reverend, "Ah got wif me $1, $2 and $5 sermons. De deacons will now pass de plate so's Ah kin see which talk yo' craves."

Brief Biography

The following brief story on Benjamin Franklin was handed in by a little girl: "He was born in Boston, traveled to Philadelphia, met a lady on the street, she laughed at him, he married her and discovered electricity."

Not Neighborly

The lonely wife called her husband's attention to the devoted husband next door who kissed his wife every time they met, and asked hubby why he didn't do that.

"I don't know her well enough yet," he replied.

"Best Bet Yet"

New

PARAFFINE REMOVER STYLE SUCKER ROD WIPER

Patterson-Ballagh's Sucker Rod Wipers are made in two styles, the regular Universal Style and the Paraffine Remover Style. These wipers offer effective means of completely stripping the rods of oil and muck, no matter how sticky. Both are completely housed and are practically automatic in operation. Each model is available with either plain head or safety cap style head. Release of these heads is easily accomplished by loosening the hammer nuts, allowing the eye bolts to swing free, permitting instant removal.

The wiping is done by self-aligning reinforced discs of tough, wear-resisting PBX Synthetic Rubber. The discs are made in four sizes for wiping ⅝", ¾", ⅞" and 1" rods. Bodies are cast steel. There is nothing to wear except the easily replaced PBX Synthetic Rubber Wiper.

The Paraffine Remover Style illustrated above has two side outlets for the discharge of excess paraffine, removed by the special cone-shaped refill that is located just at the junction of the two outlets. Patterson-Ballagh Sucker Rod Wipers are time and money savers and mean cleaner production.

See Composite Catalog

Patterson-Ballagh SUCKER ROD WIPER

Los Angeles 1 Houston 10 New York 6

"The Wildcatters"

"The oil game," says Samuel W. Tait, Jr., in his new book *"The Wildcatters,"* "is one pioneering activity that has never had a frontier, and until the last porous stratum of rock is explored it never can have one. There would be mirth-provoking irony in a map of the United States showing the boundaries, lateral and horizontal, beyond which dogmatists have at one time or another said oil could not be found—which mental barbed-wire fences have snapped under the irrepressible urge of the wildcatter. The primitive 'creekology' which kept derrick for a while off the hillsides of Pennsylvania, the phobias about the red beds of central northern Oklahoma, the antique geological shibboleths which long obscured the potentialities of the Illinois basin—all such and 100 more have been exposed to ridicule through the wildcatter's boundless energy, curiosity, ambition, and skill with a string of tools."

From this, it is easy to judge that Tait has great respect for the wildcatter. He has pictured this most virile element of the oil industry against an historical background that emphasizes the great part played by "wildcatters" from 1859 down to the present. He has caught the spirit of restless enterprise which characterizes the great figures of wildcatting from William, Drake and Galey, to Joiner and Gutowsky.

Although historical in character, the style of the book is easy and moving, and makes delightful reading. It is a worthwhile contribution to literature about the industry, and probably will take a topmost place with those who want authentic information, interestingly and colorfully presented.

The book is published by Princeton University Press, Princeton, New Jersey. Price is $3. per copy.

Our Resources

"Our Oil Resources," is the tile of a new book edited by Leonard M. Fanning, well known writer on oil and author of "The Rise of American Oil."

"Our Oil Resources" is in the nature of a symposium presenting the views of 18 outstanding authorities and oil company executives, all leaders in the industry. An exhaustive, authoritative study of our oil resources, in terms of geographical knowledge, as well as of human resources, the book makes a notable contribution to information and thought about where future oil supplies are to come from.

"Oil has been called a product of freedom," says the author, in his preface. "It is not found—it must be won from the earth," he states further. "The history of petroleum over the world and the preeminence of the United States show that initiative and enterprise, with the spur of competition, are the real tools by which it is won. Moreover, the American petroleum industry performs an important part in developing oil reserves not only at home, but also in foreign countries, as we show in this book."

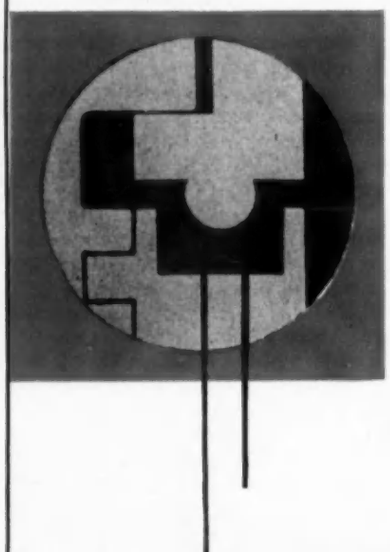
The book is an impressive story of the petroleum industry in the United States, a story told by those most qualified to know the details and their relation to our national life and strength. Copies may be obtained from The Gulf Publishing Company, P. O. Drawer 2608, Houston, at $4. each.

Aircraft Lubrication

The aviation department of Socony-Vacuum Oil Company, Inc., has published a booklet, "Aircraft Lubrication," in which a difficult technical subject is handled in such a way to make it easily comprehended by pilots of light planes as well as by skilled mechanics of four-engine transports and cargo planes. The 96-page manual is thoroughly illustrated with detail scale drawings, many in five colors.

Realizing that an appreciation of correct lubrication depends on understanding the mechanics of aviation, the authors have devoted the early part of the text to describing the equipment of a plane, what it does and how it operates.

THREE LUGS—
ONE *Always* IN POSITION



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ONE Always SEALING

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Double seats, each individually capable of sealing against the test pressure of the union, provide double protection. Renewable brass seats furnished in 6000 pound test union; others have steel seats.

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California Distributor: BETTIS RUBBER CO., Ltd., 1557 So. Esperanza St., Los Angeles, California.

Levi F. Shiplet, West Texas-New Mexico district superintendent for The Texas Company, has been promoted to division superintendent, embracing the company's operations in North and West Central Texas, Panhandle and the Permian Basin. He will continue to maintain headquarters at Midland. **G. I. Holliman,** who saw service with the Army in the China-Burma-India theater as a lieutenant colonel and was formerly with the company at Salem, Ill., will succeed Shiplet as superintendent of the Permian Basin district. **J. F. Neill,** a lieutenant colonel with service in the European and Pacific campaigns, has returned to the company as assistant district drilling foreman in the Permian Basin.

John H. Murrell of DeGolyer & McNaughton, Dallas, was elected chairman of the North Texas section of the American Institute of Mining and Metallurgical Engineers in Fort Worth January 24. **Richard T. Bright,** Mercantile National Bank, Dallas, was reelected secretary-treasurer.

Dr. Robert C. Page, a medical officer in the Army Air Forces during World War II and assistant medical director of Standard Oil Company (N. J.) has been appointed general medical director of the company, succeeding **Dr. Willard J. Denno,** its chief medical officer since 1918.

Dr. Denno, who developed the company's medical department from an office with one part-time physician to a world-wide organization having 11 hospitals and more than 150 physicians and 1500 nurses and attendants, will continue with the company as medical consultant.

Dr. Alfred Gage, an assistant medical director, will be in charge of medical service and advice for affiliated companies in Latin America.

Ben H. Bland and **R. R. O'Neil,** lieutenant and sergeant, respectively, in the Army, have rejoined Shell Oil Company's West Texas scouting staff. Bland will be stationed at San Angelo, while O'Neil is located at the Midland district headquarters. **Jack Burson,** scout, has been transferred from Midland to scout the northwest sector of New Mexico.

George Corey, assistant West Texas district geologist for Shell Oil Company, has returned to duty at Midland after being inactivated as a major in the Army Air Corps. He served in the Pacific.

Pete M. Martin, consulting geologist and former North Texas district geologist for Continental Oil Company, has transferred headquarters from Wichita Falls to Fort Worth, where he has an office in the Commercial Standard Building.

J. E. Warren and **Don Johnson,** both of Midland, Tex., have organized the Warren Production Company, and will operate in West Texas.

K. T. Woodman, formerly assistant geologist for Lion Oil Company at Wichita, Kan., has resigned to become district geologist for Sohio Petroleum Company at Wichita. **Walter M. Wilkinson** has resigned from Phillips Petroleum Company and will serve with Woodman as geological scout and assistant geologist.

Byron Meredith has resigned as Gulf Coast division superintendent for Sinclair Prairie Oil Company, effective March 1. He will become associated with **S. W. Morris,** drilling contractor. They will organize the firm of Morris & Meredith, Inc., with offices in the Esperson Building, Houston, to engage in drilling contracting.

O. C. Field, vice president of Fullerton Oil Company, has been elected to the executive board of the Los Angeles Council of Boy Scouts of America.

L. E. Olinger has been elected president of the Petromont Corporation, succeeding **Gene Reid,** who has resigned as president and director.

Oscar Shehorn has been elected president, **E. N. Palsgrove,** vice president and **J. P. Butler,** secretary-treasurer of the Oilfields Service Association, Long Beach, Calif.

R. L. Langenheim, dean of engineering, Tulsa University, spoke before the Mid-Continent section, ASME, Tulsa, "An Engineering Education for Returning Servicemen."

Charles D. Hawley has been appointed assistant to the general manager of Ethyl Corporation Research Laboratories, Detroit. **John B. Taylor, Jr.,** has been named to succeed Hawley as assistant director of engineering research. Hawley joined the Ethyl Corporation staff in 1927, and Taylor became associated with the organization in 1930.

Roscoe E. Walker and **Paxton H. Gray,** both of Grand Prairie, Tex., and **Claude G. Bryson,** Sanger, Tex., have organized the Seabee Drilling Company.

H. M. Banta, engineer of Batelle Institute, has completed preliminary work in the Permian Basin, in the first step of a research project sponsored by the American Association of Oil Well Drilling Contractors. The study is designed to reveal the effects on equipment above and below ground in continuous drilling operations.

W. A. Melton, the Foxboro Company Tulsa, was the principal speaker at the weekly luncheon of the Tulsa Geological Society and also showed colored film of Puerto Rico taken by him several years ago.

E. B. McFarlin, Sr., is in charge of the office opened in the Milam Building, San Antonio, by Chapman and Marlin, Tulsa independent oil operators.

Ralph Cantrell has become associated with **Cecil Hagen,** oil producer and geologist of Houston, as geologist. He was in the Navy 2½ years. Formerly he was with Stanolind Oil & Gas Company. More recently, he was with Lane-Wells Company as geologist in the electrical logging department.

Addison B. Manning, Howard J. Speer and **Rueben D. Stroh** have returned to Bay Petroleum Corporation, Denver, from the armed forces. Manning is geologist for the Rocky Mountain division. He was a Liberator pilot with the rank of captain. Speer, also geologist for the Rocky Mountain division, was in the Engineers Corps with the rank of master sergeant. Stroh is assistant chief clerk in the general office at Denver. He served with the infantry with the rank of corporal.

F. M. Perry, manager of the natural gasoline and chemical division, Cities Service Oil Company, Bartlesville, Okla., has been appointed to the board of directors of the Oklahoma Mineral Industries Conference.

Ed Pickett has resigned as oil scout with Union Oil Company, to take a position with Wilshire Oil Company as district exploration engineer for the San Joaquin Valley. He will be headquartered in Bakersfield.

Will I. Lewis, Mt. Vernon, was named president and **Basil Moss,** Mt. Vernon, was elected treasurer of the Illinois Oil and Gas Association. Lewis is an independent oil producer and drilling contractor who came to Illinois soon after the discovery of new production in the Basin counties. Moss is a member of the land department of Magnolia Petroleum Company.

O. K. Baker has rejoined Shell Oil Company as supervisor of insurance and claims for the Texas-Gulf Area after an absence of almost four years in the Navy, from which he was discharged with the rank of lieutenant commander. An Annapolis graduate of 1922, Baker was Shell's West Texas representative in insurance in claims when he was called to active duty in April, 1942.

M. C. Brunner has rejoined Shell Oil Company's Texas-Gulf Area as administrative assistant in the office of the vice president at Houston. Brunner entered the Army May 6, 1941, and when separated held the rank of colonel. A graduate of California Institute of Technology, Brunner has been with Shell since 1926. He was administrative assistant in the Houston office of the exploration department when he entered the service.

Victor H. Collis, Jr., has returned to **Cecil Hagen,** oil producer and geologist of Houston, as engineer. During the war he was in the European Theater as photographic interpretation officer with the rank of major.

MEN IN THE INDUSTRY NEWS

Alexander H. Gaal has been appointed merchandising manager of Earle M. Jorgensen Company, steel distributors. A discharged Army major, he has been stationed for over three years in the steel division of the War Production Board, Washington. During 1943 he accompanied **Sir John Duncanson,** steel controller for Great Britain, on an extensive steel survey throughout the British Empire at which time the CMP plan was installed in Australia, New Zealand, India and Union of South Africa. Prior to his service in the Army he was with Republic Steel Corporation.

Alexander H. Gaal

Robert E. Dillon has been elected to the board of directors of Sterling Engine Company, of Buffalo, N. Y. In addition to his directorship in the Sterling Engine Company, Dillon is also president and general manager of the Lake Erie Engineering Corporation, director of the Marine Trust Company, Air Investors of New York City, and several other financial and manufacturing companies.

Eugene T. Scott has joined Templeton Kenly & Company, Chicago, as product application engineer. After leaving Northwestern University in 1935, Scott was field manager for the National Aluminate Company, until 1940, and in personnel work for the Chicago Screw Company until 1942, when he enlisted in the Navy.

Melvin C. Shaw has been named manager of the blower and compressor department for Allis-Chalmers Manufacturing Company, Milwaukee, succeeding **John Avery,** who has resigned to become president of a blower corporation in Indiana. Shaw, with Allis-Chalmers since 1914 when he was graduated from the University of Washington, has been chief engineer of the department he will head since 1935.

E. J. Protin has been appointed vice president in charge of the new products development research division for Pittsburgh Steel Company, with headquarters in Pittsburgh. **J. H. Morrison** was named vice president in charge of operations, a post which Protin has held since February, 1942.

Protin, a director of the company, has been particularly active in developing products for the oil industry. Morrison joined the company in 1936, but left in 1940 to become vice president of Sharon Steel Company. He resigned to rejoin Pittsburgh Steel three months ago.

Ralph N. Weber has been appointed service manager of Le Roi Company, Milwaukee. He has been with the company for ten years in various capacities. He has been active in the service department since 1941 as an order analyst and later as manager of the service order department. In his present position, in addition to the actual service department, he is also responsible for the service repair shop and the extensive field service program.

Ralph N. Weber

C. Earle Stewart has been appointed drill sales representative for Bucyrus-Erie Company, and will cover the Evansville, Indiana, territory with headquarters at Evansville. He has been in the oil, gas and water well drilling business for 23 years and has served as tool dresser, driller and drilling superintendent in all the major oil states.

John S. Lawrence has been appointed district sales manager of the Denver branch, mechanical goods division, United States Rubber Company. Lawrence was a mechanical goods salesman in Kansas and western Missouri prior to the war and during the war served as the company's specialist to the aircraft industry at Wichita, Kansas.

Wayland B. Woody, head of the engineering department, Franks Manufacturing Corporation, Tulsa, has been elected vice president in charge of engineering. Woody has been with the company for about ten years and has designed and developed important oil field equipment.

Sam T. Dyer has been named sales manager of York Supply Company, Ltd. Dyer was graduated from St. Edwards University, Austin, in 1929 and was employed by several prominent drilling contractors. He joined Reed Roller Bit Company's sales department in 1937 and advanced to district sales manager in Houston. He also was foreign sales representative. He resigned the latter position to become associated with York.

Sam T. Dyer

York's home office is in Houston, with branches in Lake Charles, La.; Winnsboro, Beaumont, Hawkins and Tyler, Tex., and Magnolia, Ark.

C. Wheeler Johnson, recently elected vice president of Continental Motors Corporation, Detroit, has been placed in charge of the company's new service and distributor sales department. Since joining Continental a year ago, he has been on special assignments, chief of which has been working with the company's national distributor organization and formulating a program for rendering improved engine service and enlarging the field sales organization.

C. Wheeler Johnson

Kenneth C. Slough, formerly manager of the Bethlehem Supply Store in Odessa, Tex., is now district manager of West Texas and New Mexico for Oil States Supply Company.

W. I. West has been transferred from the Houston office of Mid-Continent Supply Company to Midland, Tex., where he will be division manager of the West Texas-New Mexico territory.

J. L. Defandorf has been appointed general engineering supervisor over the rubber mill, synchronous motor, valve control, public works, short orders, textile, paper and printing equipment division of Cutler-Hammer, Milwaukee. He joined the company in 1920.

Raymond T. O'Keefe, Jr., has been elected vice president of The Kropp Forge Company, Chicago. He has been with the company since 1942, when he was appointed personnel manager. In 1943 he was made personnel manager for both Kropp Forge Company and Kropp Forge Aviation Company. The same year he was put in charge of industrial relations for both plants, and during the war period he served as chairman of the labor-management committee.

Alois Kremser has left California Research Corporation, subsidiary of the Standard Oil Company of California, as a vice president to become personal adviser on research matters to **R. G. Follis,** president of Standard of California. **L. P. Elliott,** formerly assistant director of the Richmond laboratories, takes over Kremser's duties as vice president of the California Research Corporation, while **A. L. Lyman,** who was in charge at Richmond, becomes director of all laboratories.

John E. Huff, Jr., has returned to his home in Houston after four years with the Navy in South America and the Persian Gulf area. Huff formerly was assistant division sales manager for Lane-Wells Company.

MEN IN THE INDUSTRY NEWS

R. E. Batchelor has been appointed Kansas district manager for the Bovaird Supply Company, succeeding **C. A. Black,** resigned. **T. A. Mallisee** will be Bovaird's Wichita representative and Batchelor will continue to be located in Lyons, Kan.

William Sheldrick, treasurer and assistant secretary of The Babcock & Wilcox Company, and The Babcock & Wilcox Tube Company, has retired from active service after 46 years. **W. G. Dryden** succeeds him. **C. H. Clash** was appointed assistant secretary of Babcock & Wilcox.

Deaths

Earl Oliver of Ponca City, Okla., one-time vice president and general manager of Marland Oil Company of Mexico, and nationally known petroleum geologist and engineer, died January 24, in Knoxville, Tenn.

Earl Oliver

He became associated with the Marland interests in 1919 and after resigning from the company in 1925 opened offices in Ponca City as a consultant. He was known for his work in the conservation of oil and gas through the application of scientific production methods.

L. M. Reynolds, 49, Tulsa independent oil man, died January 22, at Wewoka, Okla. He had lived in Tulsa the last four years and had operated in the Tonkawa and Oklahoma City pools as well as in Illinois.

Samuel H. Hunt, 83, retired independent oil operator of Oklahoma, died January 28 in Tulsa. He was a native of Wellsville, N. Y., and moved to Oklahoma in 1905. He lived at Bartlesville until 1925, when he retired to Colorado Springs, Colo.

Harold K. Shearer, 57, geologist for Drilling and Exploration Company, Dallas, died January 17 of a cerebral hemorrhage in Salvador, Bahia, Brazil. Born in Springfield, O., Shearer attended the University of Chicago. Shortly afterwards, he spent two years in Brazil in the iron ore regions. He returned to that country in 1942 as a representative of the War Minerals Board and in 1944 joined Drilling and Exploration. Between the Brazil trips he was engaged in geological work in the Gulf Coast area.

Victor H. Combs, 50, manager of the Midwest Production Company, Tulsa, died January 24. A native of Kansas, he had resided in Tulsa for about 25 years.

Kenneth M. Bravinder, Union Oil Company subsurface geologist, died in Long Beach, Calif., January 22, after a recurrent illness suffered during the past year.

Bravinder had been employed by Union Oil since 1936, and in 1939 became subsurface geologist with headquarters at Long Beach. After graduating from the University of Southern California in geological sciences, he attended the University of Washington, where he received a masters degree. Later he was a graduate student and teaching fellow at the University of California at Berkeley.

Hardy Young, chief pilot for Stanolind Oil and Gas Company, Tulsa, died January 28, following a heart attack. Young, 45, had been an instructor and commercial flyer at Oklahoma City for about ten years before becoming an oil company pilot. He first flew for British-American Oil Producing Company and two years ago joined Stanolind after serving with the Royal Air Force in Canada. He had approximately 10,000 hours in the air.

William H. Huhn, 47, assistant to the head of the valuation engineering department, Sinclair Prairie Oil Company, Tulsa, died January 25 following a heart attack suffered while at his desk. He had been associated with the Sinclair interests continuously for more than 20 years.

Murray B. Leonard, 62, former Tulsa oil man died January 25 in Brownsville, Texas. He was born in Bedford, Ia., and went to Wagoner, Oklahoma, in 1901 and moved to Tulsa in 1920.

Justin Daspit of Baton Rouge, former president of the Louisiana State Bar Association, died in Baton Rouge January 25. The 67-year-old attorney was general counsel for the Louisiana Revenue department in 1929-39 and more recently special counsel for the Louisiana Mineral Board.

Roy Mead, Tulsa drilling contractor and oil producer, died January 26 in Dallas. He was 54 and was a native of Ohio. He went to Tulsa in the early 1920's and at one time was one of the most active drilling contractors in the industry. More recently he had been active in oil production and ranching.

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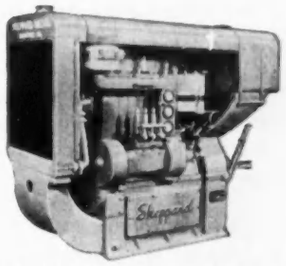

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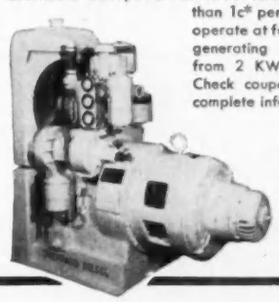

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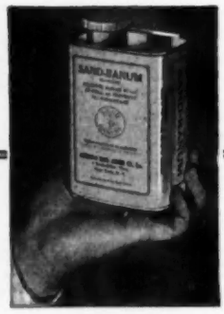

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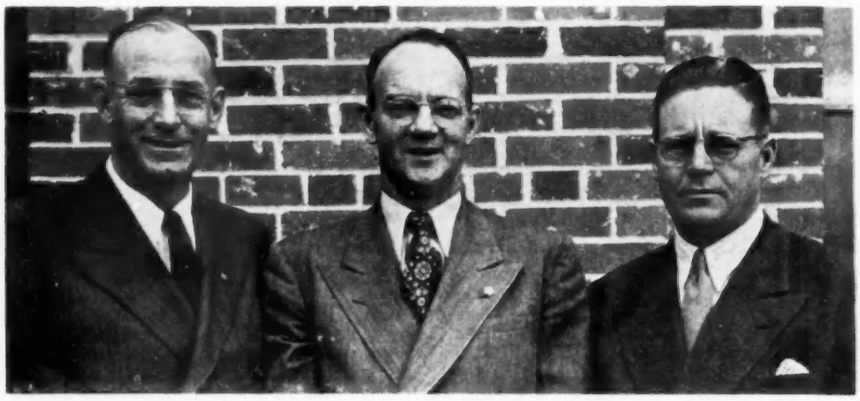


J. E. Lassiter, sales manager; T. C. Smith, general superintendent, cutting and fishing tool department; and A. W. Waddill, vice president in charge of sales (left to right), Houston Oil Field Material Company, Houston, recently received 15-year service awards from the company. The awards were star-shaped lapel pins with a ruby on each point. Only seven other members of the company's staff have received the award.

Personnel Changes Announced By Taylor Instrument Firm

Taylor Instrument Companies, Rochester, N. Y., announces the following changes in personnel of the sales organization, effective January 15:

J. E. Hart, formerly of the Taylor organization at Rochester and for the past two years deputy chief of the Industrial Instrument Branch of the War Production Board, has returned to this organization. His new assignment is as manager of the Boston sales office from which point the New England territory is covered.

R. E. Flikkema, for 20 years manager of the Pittsburgh office, was transferred to Tulsa to take charge of that branch. With him is A. R. Wagner, who joined Taylor in the spring.

Following the departure of Flikkema from Pittsburgh, F. C. Fuzzard, who worked with Flikkema several years, was made acting manager of the Pittsburgh territory. A. C. Mahana, Rochester, is assisting Fuzzard in that territory.

J. A. Grant, who started in the Philadelphia office nearly ten years ago and was later in charge of sales activities centered in Greenville, N. C., has returned to Philadelphia to be part of that sales organization. His return to this organization follows three years service with the Navy with the rank of lieutenant commander.

Hinderliter Firm Acquired by H. K. Porter Company Head

Frank J. Hinderliter, president of the Hinderliter Tool Company, Tulsa, announced that stock control of the company has been acquired by Thomas M. Evans, president of the H. K. Porter Company of Pittsburgh, Pa. Hinderliter, who organized the company in 1919, will remain as its executive officer and no personnel changes are contemplated.

The Porter company is a holding company controlling five other companies including the Mount Vernon Car Manufacturing Company of Mount Vernon, Ill., the Quinby Pump Company, and others. Acquisition of the Hinderliter properties is part of an expansion program.

The Hinderliter plant covers ten acres and is located at 1150 North Peoria Avenue, Tulsa, where it manufactures tool joints, fishing tools, drilling, production and casing head equipment and other products used by the petroleum industry. During the war the company manufactured gun barrels and shortly after the war it acquired extensive equipment which it used in its war work and has converted to peacetime use.

Besides the Tulsa plant, Hinderliter operates nine other branches, including shops and repair plants, stores and replacement stocks in Seminole and Oklahoma City, Okla.; Houston, Longview, Odessa and Wichita Falls, Tex.; New Iberia, La.; Clay City, Ill., and Great Bend, Kan.

Directors and principal stockholders of the Hinderliter organization include Hinderliter, Frank G. McClintock, C. A. Mechling, W. S. Powell, Charles W. Grimes, C. H. Pape and W. G. Skelly.

Brown Instrument to Complete $500,000 Expansion Program

Brown Instrument Company, Philadelphia, industrial instrument division of Minneapolis-Honeywell Regulator Company, plans to complete installation of $500,000 worth of new manufacturing, processing and development equipment this year. About half the amount was invested in 1945, in new and modern machine tool equipment.

Casper Office Opened

MacClatchie Manufacturing Company, Compton, Calif., has opened a sales office and warehouse at 133 North Wolcott Street, Casper, Wyo., with Cliff Ford in charge. The office is part of an expansion program to facilitate sales and complete service in the Rocky Mountain area.

1—Shape-Cutting Machine

Ohmstede Machine Works has introduced a shape-cutting machine which is claimed to have a number of advantages. The machine was designed to cut an unlimited variety of shapes, and can be used either as a portable or stationary type. The outfit is a unit and as such may be moved easily whether it be on a portable or stationary base.

The use of high strength aluminum alloys makes the machine stable and rigid under all conditions. Oversize anti-friction bearings are used in the aluminum alloy arms and are completely sealed from foreign material.

The variable speed motor is equipped with a special filter to insure long life. The cutting range is 65 inches lengthwise and 30 inches laterally. Speed is varied by adjusting rheostats on the control panel.

Torch controls are within easy reach all during cutting operation. Offsetting

the torch from the line of cut is accomplished by turning the handwheel in the direction the offset is desired. This offsetting enables the machine to produce cuts that are unblemished by the piercing operation.

Spindle tracing, using a plywood or some similar material as a templet, is an outstanding feature of this machine.

(Check item 1 on coupon for more information.)

2—Battery Kits

The B. F. Goodrich Company is now featuring its rechargeable wet storage in kits for both home and auto. The kits include the battery itself, a flashlight case of new design, a single unit charger, bottle and applicator for water, and battery wrench.

The flashlight case is gray and molded of a resilient shock-resisting plastic, with hard glossy finish.

The charger with the home kit can be plugged into any 110 volt AC current, while that with the auto kit is installed on the car, and will charge even when the engine is not running, with negligible current consumption.

(Check item 2 on coupon for more information.)

3—Open-Bowl Scrapers

Caterpillar Tractor Company announces production of three sizes of open-bowl scrapers, matched in capacity to the power of its Diesel tractors and built to perform with them as a complete earth moving package.

The scrapers, designated as Nos. 80, 70 and 60, have respective measures of 13.8, 8.7 and 6 yards.

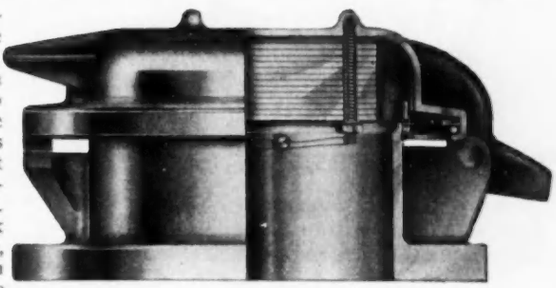
Features include open-bowl design for greater stability, visibility and access for showel or dragline loading; high apron lift to clear the stickiest materials; positive, clean ejection; long cable life from correct reeving, over-sized precision-grooved sheaves; double-curved, self-sharpening cutting edges for live loading with longer boiling action, digging hard material, shorter loading distance and less loading time; optional tire sizes for correct flotation, tires matched to the job, minimum rolling resistance, bigger pay-loads and longer tire life.

(Check item 3 on coupon for more information.)

4—Vertical Vent Valve

Black, Sivalls & Bryson have developed the vertical vent valve, Model H (VHD). The sealing medium is a flexible, neoprene or synthetic rubber gasket of patented "cantilever" design. The valve makes ingenious use of the pressure in the tank to seal itself, right up to the set pressure. When pressure in the tank builds up high enough to lift the valve cover, the rising cover pulls the gasket from its tight mating with the body, and relieves pressure from the tank. When pressure in the tank drops below the valve setting, the cover falls to rest upon supporting lugs and once more the cantilever gasket seals the valve tightly.

The valve is recommended for use on atmospheric storage tanks, with that general classification including vessels operating up to one pound. It is made in sizes from two to 24 inches. The 2-, 3- and 4-inch valves can be set to open at pressure from three to sixteen ounces,



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while the larger valves may be set from two to sixteen ounces. Pressure setting may be changed by adding or removing weights inside the cover. All valves operate at one half ounce vacuum. The body of the valve is of cast iron, the cover of cast aluminum, and weights are of lead.

(Check item 4 on coupon for more information.)

5—Plane

Globe Aircraft Corporation is producing what is claimed to be the first personal airplane manufactured entirely on production tooling. The SWIFT was designed for personal commercial use.

The SWIFT wing is of the segmental type, semi-monocoque constructed, consisting of center section, outer panels, tips, slats, ailerons and flaps. All components are easily detached for repair or replacement.

Landing gear tread of 9 feet, 9 inches affords gear retraction to wells outside the cabin so as not to impede comfort in the cabin. Gas tanks of 15 gallons each are fitted in the center section. Outer wing panels are attached to the center section by three bolts—two at the main spar and one at the rear spar.

Enclosure for the cabin is of the sliding hatch type. Access to the roomy cabin is afforded through either side by sliding plastic panels that disappear into the fuselage walls. The top plastic panels are tinted for protection against the sun's rays.

A 12-volt electrical system includes a spill-proof battery, engine driven generator, and navigation lights. A hydraulic system provides rapid actuation of the gear and flaps. Should a hydraulic system failure occur, the gear may be lowered to a "down-locked" position by the use of a mechanical emergency linkage.

Landing gear structure is exceptionally rugged. Shock is absorbed through full size oleo spring struts which have a 3½-inch travel and dissipate all of the initial landing shock without transmitting it to the airplane structure. A special feature is the extra sturdy tail wheel with a hydraulic spring strut that cushions landings and keeps the tail from bouncing.

The plane is powered by either the four-cylinder, 85 horsepower Continental or the six-cylinder, 125 horsepower Continental engine.

Cabin width of 42 inches assures plenty of room for two occupants. Seats and the full one-piece back are cushioned by foam rubber material to provide prolonged comfort in maximum range trips. Upholstery is modern leather with an ash tray and map pocket on each side of the fuselage, near the instrument panel. The color scheme is blue trimmed in cream, and all exposed metal is finished with enamel. The cabin is insulated with soundproofing more than ½ inch thick, covering the firewall, entire floor and the side panels from the firewall to the aft end of the baggage compartment.

(Check item 5 on coupon for more information.)

6—Paint Indicator

Crescent Bronze Power Company has perfected a pocket-size aluminum paint indicator. The indicator places at the finger tips valuable information about the exterior or interior application of aluminum paint. One setting of the indicator tells:

How to prepare any given surface before applying the paint.

How many square feet of any given surface can be covered with a gallon of the paint.

The kind of structures having the given surface, which is covered in detail for each possible surface on which aluminum paint can be applied.

(Check item 6 on coupon for more information.)

7—Air Hose

Goodyear Tire & Rubber Company has developed an air hose said to have unusual strength and rope-like flexibility. The hose is an outgrowth of the wartime process used in making bullet-sealing fuel hose for airplanes.

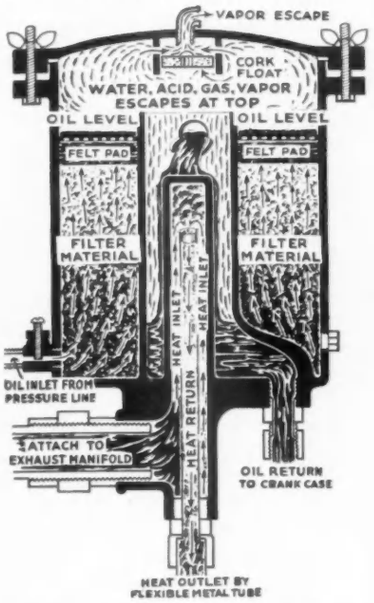
According to the company, the hose is manufactured under an exclusive method of bonding cover, carcass and tube together with much greater adhesion-strength than previously obtainable. The result of the process is a lighter hose with much thinner wall gauge but far greater ruggedness, flexibility and longer life than has heretofore been possible. The hose is manufactured in light, medium and heavy-duty types, providing a wide range of adaptibility to various jobs.

(Check item 7 on coupon for more information.)

8—Oil Filter

Reclaimo Sales Company has perfected an oil filter which in addition to filtering the oil, also removes water and

fuel dilution by heat and evaporation, according to the manufacturer. The filter is adaptable to cars, tractors, diesels and marine motors.



The filter is connected to the exhaust manifold and the heat from the exhaust keeps the oil heated constantly while it is passing through the filter.
(Check item 8 on coupon for more information.)

Literature

9—Engineering Manual

The United Welding Company has published a booklet, "Tailoring in Metal," which is an engineering manual. It discusses the factors affecting the choice of welded fabrication and the techniques of welded design. Various types of welds are explained and how they affect static and fatigue load values. Although written particularly for manufacturers of machinery and equipment, the manual is interesting to everyone involved in shop maintenance because of the application of welding to such fabrications as gear blanks, pulleys, tanks, casings, housings, frames, breechings, stacks, etc.
(Check item 9 on coupon for more information.)

10—Instruments

The Bristol Company has published Catalog W1800 on the company's line of automatic controlling, recording, and indicating instruments. Included are hints on how these instruments can be used effectively to save time and money, and to promote efficient operation. Specification data is given on each instrument listed. The booklet is liberally illustrated with line drawings which show basic methods of applying various types of industrial instruments.
(Check item 10 on coupon for more information.)

Use the Coupon

For free copies of Manufacturers' Literature or more information on products described on these pages, use the convenient mailing coupon on page 61.

11—Hydraulic Cylinders

Logansport Machine Company has issued catalog 84, on hydraulic cylinders. The catalog contains technical and engineering data to enable the user to determine the type and size of cylinder which will best meet his requirements. The book gives complete specifications and engineering data on the various available cylinder types, suggests methods of application, and gives helpful information for designing hydraulic circuits.

The new "Rotocast" Cylinder catalog also illustrates accessory equipment which permits improved performance in certain applications, as well as co-ordinated units for making up complete hydraulic circuits.
(Check item 11 on coupon for more information.)

12—Recording Instruments

The Foxboro Company has issued Catalog 370, presenting the company's line of recording and indicating instruments for measurement and control. Arranged for quick reference, and profusely illustrated, the sections deal with instruments for temperature applications, pressure, humidity, flow, liquid level, density, and other process variables. Control valves, planimeters, instrument accessories and supplies are included.

This catalog is the first in which the company has been able to show its line of electronic instruments, the sale and use of which has, until recently, been limited to military applications.
(Check item 12 on coupon for more information.)

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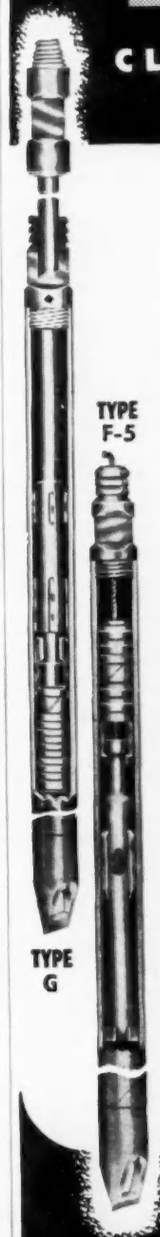

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NGAA Explains Change in Natural Gasoline Industry

The Natural Gasoline Association of America at its 25th annual convention, Dallas, April 17-19, will have an elaborate program under direction of P. M. Raigorodsky of Glen Rose Gasoline Company, Houston, according to President J. H. Dunn, Shamrock Oil & Gas Company, Amarillo, Texas.

"The industry is passing from it traditional 'one-product' phase into one of broadly expanded operations in which it will probably meet demands for many products," Dunn said. "Both the natural gasoline and cycling industries are in enviable positions today with respect to motor fuel and chemical raw material markets. Their modern plants have an efficiency of fractionation permitting the maximum extraction of valuable hydrocarbons either as pure products or in many desired blended combinations. This war stimulated modernization, the introduction of new processes and the potentialites of the changed operations need to be studied and correlated, and that is to be the theme of this first convention in two years."

Map to Aid in Maryland Oil Exploration Issued

Results of a survey of anomalies in total magnetic intensity in 850 square miles in Worcester and Wicomico counties, on the Atlantic Coastal Plain in the southern peninsula of Maryland, which will aid in exploration for possible oil deposits, are embodied in a map issued by the U. S. Geological Survey.

The study, made by the survey in cooperation with the Office of Naval Petroleum and Oil Shale Reserves, developed several areas of pronounced magnetic variation, of which two prominent magnetic "highs" in the southwest part of the mapped area are considered of special interest because they may be due to topographic prominences on the surface of the basement rocks. Subsequent arching of the sedimentary rocks above hills of low to moderate relief on the basement rocks may have produced favorable structural features for trapping oil and gas, is was explained.

Two wells have been drilled recently in the area, and the basement rocks were found at a depth of more than 5,500 feet in one and more than 7100 feet in the other. No oil or gas was found.

Issued as Preliminary Map 46 of the Oil and Gas Investigations series, copies may be purchased at 30 cents each from the Survey's Washington office.

Kerlyn Changes Name

Stockholders of Kerlyn Oil Company, at a meeting in Oklahoma City, voted to change the corporation name to Kerr-McGee Oil Industries, Inc., according to an announcement by Dean A. McGee, executive vice president. Recently Anchor Exploration Company, a geophysical unit, was absorbed by Kerlyn Oil Company and that name has been dropped. Operations of Kerr-McGee and Company, a partnership, were not involved in the change. Neither was the company's subsidiary, the Fen-Ter Refining Company.

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